



# Metal Finishing Chemicals

For various substrates

Updated October 2013

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# Aluminum

## CLEANERS – SPRAY

<b>Cleaner P 005M</b>	Powder heavy-duty silicate containing non-etch cleaner for general
<b>Lusterclean™ 40 LF</b>	Liquid, heavy-duty amine soap based cleaner. It is an excellent choice for removing stamping oils, deep drawing oils, and other types of lubricants. It offers unsurpassed particular soil removal and leaves a protective soap film with a low co-efficient of friction. It will emulsify most oils and is ideal for use with ultrasonics.
<b>Aquaease™ PL 85</b>	Liquid, heavy-duty silicate based cleaner. It offers high efficacy for removing stamping oils, deep drawing oils, and particulate soils.
<b>Aquaease™ PL 732</b>	Liquid, phosphate based cleaner. It is effective at removing all metal working fluids. It exhibits extremely a low foam characteristic.
<b>Emerald Acid Clean #1</b>	Liquid non-silicate containing non-etch citric acid based cleaner. Very effective as removing metal stearate and stearate soap based drawing and impact extruding compounds.

## CLEANERS – SOAK

<b>Almet B</b>	Powder, silicate containing non-etch cleaner for removing oils and identification inks.
<b>Aquaease™ S 188 NE</b>	Powder, non-silicate non-etch general purpose cleaner. Good choice for use as a cleaner on anodizing lines.
<b>Aquaease™ SL 80</b>	Liquid heavy-duty silicate containing cleaner for removing heavy oils and soils. It tends for split out most oils.
<b>Aquaease™ PL 72 A16</b>	Liquid, phosphate based cleaner for general cleaning. Minimal etch on aluminum.
<b>Lusterclean™ 40 LF</b>	Liquid, heavy-duty amine soap based cleaner. It is an excellent choice for removing stamping oils, deep drawing oils, and other types of lubricants. It offers unsurpassed particular soil removal while leaving a protective soap film with a low co-efficient of friction. It will emulsify most oils and is ideal for use with ultrasonics.
<b>Aquaease™ SAL</b>	Liquid, neutral, high detergency cleaner is used for the removal of light oils and soils. It is non-etching for use on anodizing lines. Good buffing compound remover when used with ultrasonics.
<b>Emerald Acid Clean #1</b>	Liquid non-silicate containing non-etch citric acid based cleaner. Very effective as removing metal stearate and stearate soap based drawing and impact extruding compounds. It is an excellent choice for use with ultrasonics.

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## Aluminum (continued)

### CLEANERS – ETCH

<b>Extend Etch</b>	Powder, caustic sodium gluconate etch. Good aluminum tolerance.
<b>Etch Cleaner 6 LF</b>	Powder, caustic cleaner / etch. Use when space limitations dictate the need to clean and etch in one tank.
<b>Lusterclean™ W 67M</b>	Liquid general purposed caustic sodium gluconate etch cleaner. Produces a refined etch desired by capacitor manufacturers and others.
<b>Aquaease PL 735</b>	Phosphate containing highly chelated mildly etching cleaner when used at 5-10% by volume at temperatures of 150 F. or higher. Excellent for removing stearate based lubes.

### ACID CLEANERS

<b>Mi-Clean™ 24</b>	Liquid, phosphoric acid based cleaner containing water soluble solvents and citric acid. Can produce a very light acid etch if such is desired. Good for light rust and scale removal form steel and stainless steel.
<b>Acid Brite 40</b>	Liquid, mineral acids and detergents formulated for cleaning and oxide removal. It will produce a bright finish on aluminum, stainless steel, and copper alloys.
<b>Emerald Acid Clean #1</b>	Liquid, non-silicate containing non-etch citric acid based cleaner. Very effective as removing metal stearate and stearate soap based drawing and impact extruding compounds. It is an excellent choice for use with ultrasonics.
<b>Aquaease Acid Clean 2289</b>	Liquid, non-silicate containing non-etch methane sulfonic acid based cleaner. Very effective as removing metal stearate and stearate soap based drawing and impact extruding compounds. It is very good at removing lime type scale removal. It is an excellent choice for use with ultrasonics. A very low chloride level allows for its use on stainless steel substrates as well. It does not complex metal ions.

### ACID SALTS

<b>Acid Salt GP</b>	Cleans, etches, removes light oils. It contains no chrome compounds and will produce a white finish. Prepares work for the application of an organic finish.
<b>Acid Salt M</b>	Dry acid salt used to replace sulfuric or nitric acid. I will produce a mild etch.
<b>Acid Salt C</b>	This product is a mono per sulfate based salt that is used in sulfuric acid solution to strip zincate coatings.

### PHOSPHATES

<b>Mi-Phos™ 26</b>	Liquid traditional fluoride containing single component detergent iron phosphate for use in three or five stage processes.
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## Aluminum (continued)

**Emerald Paint Prep 380 NP** Zirconium based conversion coating used as a base for painting or organic film coating.

### DEOXIDIZERS & DESMUTTERS

- Deoxidizer 13L** Used in rack or barrel processes for removing smut from all wrought aluminum alloys. It contains no chrome compounds.
- Deoxidizer 44** Heavy duty deoxidizer and smut remover containing inorganic acids and an iron compound.
- Alum Prep** Liquid smut remover and deoxidizer for cast aluminum and high silica containing alloys.
- Descaler D** Fluoride salt that is added to products such as Alum Prep to fortify its smut removing and deoxidizing characteristics.

### MASS FINISHING

- Lusterbrite LA** A liquid mildly acidic, high detergency burnishing compound. Produces bright finishes and leaves a light film with low surface friction characteristics. It is also an excellent burnishing compound for brass and other copper based alloys.
- Lusterlume 3 LX** A mild general purpose burnishing and vibratory compound. It has a pH of 8.5 to 9.5 and produces a high although controlled amount of foam for cushioning.
- Emerald Acid Clean #1** Liquid non-silicate containing non-etch citric acid based cleaner and mass finishing compound. Very effective as removing metal stearate and stearate soap based drawing and impact extruding compounds. It produces a bright lustrous finish on aluminum, brass, and copper.

### BRIGHT DIP

- Bright Dip 8-EL** A low fuming nitric and phosphoric acid containing bright dip for wrought aluminum alloys.

### BLACK FINISH

- Black Magic™ RT-A3** Produces a flat decorative black finish on wrought, die cast, and sand cast aluminum.

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## Aluminum (continued)

### CORROSION INHIBITORS

<b>Metal Guard® 600</b>	Liquid, clear, water reducible acrylic with good humidity resistance.
<b>Emerald Seal 308</b>	This is a non-chrome compound containing sealer for use after Emerald Paint Prep 380, Mi-Phos 26 or Black Magic RT-A3.

## Copper and Brass

### CLEANERS – SPRAY

<b>Cleaner P 005M</b>	Powder heavy-duty silicate containing non-etch cleaner for general use.
<b>Aquaease™ PL 732</b>	Liquid, phosphate based cleaner. It is very effective at removing all metal working fluids with an extremely low level of foam. It may be used in all types of high pressure spray washers.
<b>Aquaease™ PL 714</b>	Liquid, heavy-duty, silicate containing, phosphate based general purpose cleaner. It may also be used on steel and stainless steel.
<b>Aquaease™ PL 916</b>	Liquid heavy-duty caustic based cleaner. Excellent particular soil removal and it may be used at lower operating temperatures (120-150 degrees F.). It does not contain phosphates or silicate.

### CLEANERS – SOAK

<b>Almet B</b>	Powder, general purpose cleaner for removing oils and identification inks.
<b>Aquaease™ PL 72 A32</b>	Liquid, phosphate based cleaner for use in medium to heavy duty cleaning of stamping and forming oils.
<b>Aquaease™ SL 80</b>	Liquid heavy-duty silicate containing cleaner for removing heavy oils and soils. It tends to “split out” most oils.
<b>Lusterclean™ 40 LF</b>	Liquid, heavy-duty amine soap based cleaner is an excellent choice for removing stamping oils, deep drawing oils, and other types of lubricants. It offers unsurpassed particular soil removal while leaving a protective soap film with a low co-efficient of friction. It will emulsify most oils and is ideal for use with ultrasonics.

### ELECTROCLEANERS

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## Copper and Brass (continued)

<b>Cleaner 200 PWA</b>	Heavy duty, high caustic, powder product offering very high conductivity with good “smut” removal capability. Cleaner 200 PWA STR is a lower foaming version.
<b>Aquaease™ E 9091</b>	Heavy-duty general purposed electro cleaner for use on copper based and ferrous alloys. It is also an effective soak cleaner.
<b>Aquaease™ SL 13</b>	Liquid, phosphate, and chelating agent free cleaner for anodic or cathodic electro cleaning.
<b>Aquaease SL 916</b>	Liquid heavy-duty caustic based cleaner. Excellent particular soil removal and it may be used at lower operating temperatures (120-150 degrees F.). It does not contain phosphates or silicate and is an exceptional electro cleaner for “reel to reel” processes.

### ACID SALTS

<b>Acid Salt W</b>	An acid salt containing a fluoride compound to facilitate the removal heavier scales.
<b>Acid Salt M</b>	Is a general purpose un-wetted acid salt to replace sulfuric and hydrochloric acids.
<b>Acid Salt PB</b>	Made especially for leaded alloys. It contains no wetting agents.
<b>Acid Salt DFL</b>	Deoxidizes/brightens copper and brass for replacement of sulfuric acid in pre-plate or final finish

### ACID CLEANERS

<b>Laser Brilliant Dip NS</b>	Liquid phosphoric acid based cleaner for the removal of light oils and oxides for copper and copper alloys. Will also effectively remove lead from the surface of brass.
<b>Acid Brite 40</b>	Contains mineral acids and detergents formulated for cleaning and oxide removal. It will produce a bright finish on aluminum, stainless steel, and copper alloys.

### BRIGHT DIPS – MATTE

<b>Laser ACB 33</b>	A hydrogen peroxide based product for pickling or descaling. It provides a matte finish offering an excellent base for adhesion of organic or inorganic coatings.
<b>Copperbrite</b>	Is an iron-based, acidic deoxidizer and bright dip for copper and copper based alloys. It may also be used to activate nickel plated surfaces.

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## Copper and Brass (continued)

### BRIGHT DIPS – SHINY

**Laser EX 50** A hydrogen peroxide based formulation that produces a bright lustrous finish on copper and copper based alloys. Its use may allow for the elimination or reduction in the amount of buffing required prior to plating.

### MASS FINISHING

**Lusterbrite LA** Liquid mildly acidic, high detergency burnishing compound. Produces bright finishes and leaves a light film with low surface friction characteristics. It is also an excellent burnishing compound for brass and other copper based alloys.

**Burn CPD 91** Liquid, heavy-duty, mildly alkaline, detergent based burnishing compound for use on multiple substrates. It produces very high luster.

**Emerald Acid Clean #1** Liquid, citric acid, based detergent burnish for removal of scale and oxide deposits. Effective on all copper based, stainless steel, and aluminum alloy.

**Lusterbrite 650 B** Liquid, mildly alkaline soap based burnish for use of copper and brass. It will produce a very high luster with a “white brass” color.

**Burn CPD TV-4** Powder, mildly alkaline burnish compound that produces bright finishes with anti tarnish characteristic. Very effective on tarnish and light scale removal.

**Aquamill™ CB XL** Liquid accelerated chemical cutting solution for the removal of grind land belting lines when used with ceramic or plastic mass finishing media.

### METAL COLORING

**Black Magic™ CBL** Hot black oxide produces jet black coating meeting the requirement of the military specifications for black on copper and copper based alloys.

**Mi-Tique® 1791** Selenium based reacts with brass, bronze, copper and muntz metal producing tones from a light brown to blackish- brown to black. Can freckle low quality brass

**Mi-Tique® 1791 LB** Selenium based reacts with copper alloys and is best for very thin bright brass and silver plating.

**Mi-Tique® 1792** Selenium based reacts with brass, bronze, copper and Muntz metal. It produces colors of light to chocolate brown with an underlying reddish tone than Mi-Tique 1791.

**Ene™ Brown Dip** Selenium based reacts with brass, bronze, copper and Muntz metal. More definite grey tone than Mi-Tique 1791 with brown tones on bronze

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## Copper and Brass (continued)

<b>Ene™ Black D6</b>	Selenium based reacts with brass, bronze, copper and Muntz metal. From brown to black and works better on poor quality brass with no freckling.
<b>Ene™ Black D8</b>	Selenium based react with brass, bronze, copper and Muntz metal to give grey to dark black.
<b>Mi-Tique® 1795</b>	Non-selenium solution for darkening tin compounds (pewter) can be used to darken solder in copper and brass assemblies.
<b>Mi-Tique® Green T2</b>	Non-selenium, ammonia containing antiquing solution producing blue green Patina. Should be used over a Mi-tique brown or black base color.
<b>Mi-Tique® Patina</b> copper alloy	Non-Selenium antiquing solution producing a yellow green patina finish on copper and Should be used over a Mi-tique brown to black base color.

## CORROSION INHIBITORS

<b>Metal Guard® 600</b>	Product is a clear water reducible acrylic polymer with a copper anti-tarnish.
<b>Hallcoat CUBR</b>	A powdered clear chromate conversion coating.
<b>Laserguard HFP</b>	High performance anti-tarnish for all copper alloys based on “triazole” compounds. Has a high flash point.
<b>Metal Guard 914</b>	Wax emulsion containing a copper anti-tarnish.

## Stainless Steel

### CLEANERS-SPRAY

<b>Aquaease™ PL 714</b>	Liquid, heavy-duty silicate containing phosphate based general purpose cleaner.
<b>Aquaease™ SL 917</b>	Liquid heavy-duty, chelated, and caustic based cleaner. It offers excellent particular soil removal and may be used at lower operating temperatures (120-150 degrees F.) It contains no phosphate or silicate compounds.
<b>Aquaease™ PL 72 A32</b>	Liquid, phosphate based cleaner for use in medium to heavy duty cleaning of stamping and forming oils.



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## Stainless Steel (continued)

- Aquaease™ PL 732** Liquid, phosphate based cleaner. It is very effective at removing all metal working fluids with an extremely low level of foam. It may be used in all types of high pressure spray washers.
- Lusterclean™ 40 LF** Liquid, heavy-duty amine soap based cleaner. It is an excellent choice for removing stamping oils, deep drawing oils, and other types of lubricants. It offers unsurpassed particular soil removal while leaving a protective soap film with a low co-efficient of friction. It will emulsify most oils and is ideal for use with ultrasonics.
- Aquaease™ PL 111** Liquid, medium to heavy-duty caustic, phosphate, and silicate containing product. It does not contain any chelating agents.

### CLEANERS-SOAK

- Aquaease™ SL 80** Liquid heavy-duty silicate containing cleaner for removing heavy oils and soils. It tends to “split out” most oils.
- Lusterclean™ 40 LF** liquid, heavy-duty amine soap based cleaner. It is an excellent choice for removing stamping oils, deep drawing oils, and other types of lubricants. It offers unsurpassed particular soil removal while leaving a protective soap film with a low co-efficient of friction. It will emulsify most oils and is ideal for use with ultrasonics.
- Aquaease™ SL 917** Liquid heavy-duty, chelated, and caustic based cleaner. It offers excellent particular soil removal and may be used at lower operating temperatures (120-150 degrees F.) It contains no phosphate or silicate compounds.
- Lusterclean™ 11L** Liquid, caustic sodium gluconate based cleaner for the metal working fluids, stamping oils, and drawing compounds. It tends to “split out” most oils and is very effective at light rust removal.
- Aquaease™ LS 931** Liquid, heavy-duty caustic based cleaner designed to emulsify most oils, lubricants, and metal working fluids.
- Aquaease™ S 986** A classic powdered, heavy-duty, silicate, phosphate, and caustic containing cleaner. A good “work horse” job shop” cleaner that can be used on steel, stainless steel, and copper alloys.

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## Stainless Steel (continued)

### ACID CLEANERS

- Mi-Clean™ 24** Liquid, phosphoric acid based cleaner containing water soluble solvents and citric acid. Can produce a very light acid etch if such is desired. Good for light rust and scale removal form steel and stainless steel.
- Acid Brite 40** Contains mineral acids and detergents formulated for cleaning and oxide removal. It will produce a bright finish on aluminum, stainless steel, and copper alloys.
- Emerald Acid Clean #1** Liquid non-silicate containing non-etch citric acid based cleaner. Very effective as removing metal stearate and stearate soap based drawing and impact extruding compounds. It is an excellent choice for use with ultrasonics.
- Aquaease Acid Clean 2289** Liquid non-silicate containing non-etch methane sulfonic acid based cleaner. Very effective as removing metal stearate and stearate soap based drawing and impact extruding compounds. It is very good at removing lime type scale removal. It is an excellent choice for use with ultrasonics. A very low chloride level allows for its use on stainless steel substrates as well. It does not complex metal ions.

### DEOXIDIZER

- Descaler D** Fluoride based dry acid salt.
- Quick Pik 1** A sulfamic acid based dry salt that will produce a satin finish good activator for black oxide.
- Acid Brite 50** Formulated blend of inorganic acids and detergents that also contains fluorides and chlorides.
- Hubpik** Inhibited acid mixture for rust and scale removal and pickling of steel, cast iron and stainless steel.

### BRIGHT DIPS

- Stainless Steel Brite Dip** Is an acid based formulation used to produce a bright and lustrous finish on 300 series stainless steels. It will also remove light edge burrs.
- Ene Electropolish #1** Acid mixture used with current to remove burrs and smooth most alloys of stainless steel.

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## Stainless Steel (continued)

### METAL COLORING

<b>Black Magic™ SSL</b>	Meets Mil-C-13924 Class 4 Liquid version black oxide for all stainless steels.
<b>Black Magic™ SS</b>	Meets Mil-C-13924 Class 4 Powder version black oxide for all stainless steels.
<b>Black Magic™ SS-C</b>	Meets Mil-C-13924 Class 4 black oxide for all stainless steels. RoHS compliant
<b>Black Magic™ RT-SS4</b>	A room temperature selenium hydrochloric acid base black for all stainless steel alloys.

### CORROSION INHIBITORS

<b>Metal Guard® 914</b>	Water based wax emulsion.
<b>Metal Guard 919</b>	Water based wax emulsion
<b>Metal Guard® 480</b>	Solvent cut back “dry to touch” water displacing rust preventive and corrosion inhibitor containing a wax.
<b>Metal Guard® 450</b>	Solvent cut back “dry to the touch” water displacing rust preventive and corrosion inhibitor similar to Metal Guard 480 without the wax compound.

### MASS FINISHING

<b>Lusterlume NIXI</b>	Liquid, near neutral general purposed burnishing compound for use on copper, copper alloys, stainless steel, and aluminum.
<b>Emerald Acid Clean #1</b>	Liquid, citric acid, based detergent burnish for removal of scale and oxide deposits. Effective on all copper based, stainless steel, and aluminum alloy.

# Steel

## CLEANERS-SPRAY

- Aquaease™ PL 714** Liquid, heavy-duty silicate containing phosphate based general purpose cleaner.
- Aquaease™ SL 917** Liquid heavy-duty, chelated, and caustic based cleaner. It offers excellent particular soil removal and may be used at lower operating temperatures (120-150 degrees F.) It contains no phosphate or silicate compounds.
- Aquaease™ PL 72 A32** Liquid, phosphate based cleaner for use in medium to heavy duty cleaning of stamping and forming oils.
- Aquaease™ PL 732** Liquid, phosphate based cleaner. It is very effective at removing all metal working fluids with an extremely low level of foam. It may be used in all types of high pressure spray washers.
- Lusterclean™ 40 LF** Liquid, heavy-duty amine soap based cleaner. It is an excellent choice for removing stamping oils, deep drawing oils, and other types of lubricants. It offers unsurpassed particular soil removal while leaving a protective soap film with a low co-efficient of friction. It will emulsify most oils and is ideal for use with ultrasonics.
- Aquaease™ PL 111** Liquid, medium to heavy-duty caustic, phosphate, and silicate containing product. It does not contain any chelating agents.

## CLEANERS-SOAK

- Aquaease™ SL 80** Liquid heavy-duty silicate containing cleaner for removing heavy oils and soils. It tends to “split out” most oils.
- Lusterclean™ 40 LF** Liquid, heavy-duty amine soap based cleaner. It is an excellent choice for removing stamping oils, deep drawing oils, and other types of lubricants. It offers unsurpassed particular soil removal while leaving a protective soap film with a low co-efficient of friction. It will emulsify most oils and is ideal for use with ultrasonics.
- Aquaease™ SL 917** Liquid heavy-duty, chelated, and caustic based cleaner. It offers excellent particular soil removal and may be used at lower operating temperatures (120-150 degrees F.) It contains no phosphate or silicate compounds.
- Lusterclean™ 11L** Liquid, caustic sodium gluconate based cleaner for the metal working fluids, stamping oils, and drawing compounds. It tends to “split out” most oils and is very effective at light rust removal.

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## Steel (continued)

- Aquaease™ LS 931** Liquid, heavy-duty caustic based cleaner designed to emulsify most oils, lubricants, and metal working fluids.
- Aquaease™ S 986** A classic powdered, heavy-duty, silicate, phosphate, and caustic containing cleaner. A good “work horse” job shop” cleaner that can be used on steel, stainless steel, and copper alloys.

## ELECTROCLEANERS

- Cleaner 200 PWA** A heavy duty, high caustic, powder product offering very high conductivity with good “smut” removal capability. Cleaner 200 PWA STR is a lower foaming version.
- Aquaease™ E 9091** Heavy-duty general purposed electro cleaner for use on copper based and ferrous alloys. It is also an effective soak cleaner.
- Aquaease™ SL 13** Liquid, phosphate and chelating agent free cleaner for anodic or cathodic electro cleaning.
- Aquaease™ E 159** Powder, caustic, silicate, and phosphate containing heavy duty cleaner. Contains no chelating agents. May be used anodically or cathodically. Also effective on stainless steel and nickel.
- Aquaease™ E 450** Powder containing caustic, silicate, and chelating agents. Used anodically or periodic reverse. Excellent smut removal characteristics.
- Lusterclean™ 11 L** Liquid, caustic sodium gluconate based cleaner for the metal working fluids, stamping oils, and drawing compounds. Tends to “split out” most oils. Effective at light rust removal. May be used as a one tank soak, electro, and alkaline de-rusting solution.

## ACID ACTIVATORS/DERUSTERS

- Acid Salt GP** Cleans, etches, removes light oils. It contains no chrome compounds and will produce a white finish. Prepares work for the application of an organic finish.
- Acid Salt M** It is a dry acid salt used to replace sulfuric or nitric acid. I will produce a mild etch.
- Ahcophos 11** Blend of phosphoric acid, wetting agents and a glycol ether.

## Steel (continued)

### ALKALINE DERUSTERS

**Deruster 11 J** Is a powdered, cyanide-free, highly alkaline water soluble product used to remove rust, heat scale, weld scale, smuts, certain fabrication oils, and to strip paint from ferrous metals.

**Lusterclean 11 L** Liquid, caustic sodium gluconate based cleaner for the metal working fluids, stamping oils, and drawing compounds. It will tend to “split out” most oils and is an effective light rust remover.

### IRON PHOSPHATES

**Hubfos 150** Is an organic accelerated iron phosphate. It is a water-soluble liquid, which cleans and produces an iridescent iron phosphate coating on steel and other ferrous metals. It may also be used on galvanized surfaces.

### ZINC PHOSPHATES

**Mi-Phos™ Z 2** Heavy zinc phosphate (2000 mg/Sq. ft). Spray or soak.

**Mi-Phos™ Z 10** Calcium modified zinc phosphate. Soak or spray. Used for paint base.

**Mi-Phos™ Black Solution** Black pre-dip used to produce a black zinc phosphate.

### MANGANESE PHOSPHATE

**Mi-Phos™ M-5** Heavy manganese phosphate.

**Mi-Phos™ M GR** Grain refiner for Manganese phosphate

### ZIRCONIUM CONVERSION

**Emerald Paint Prep 380 NP** Zirconium conversion steel and aluminum room temp 4 stage

**Emerald Paint Prep 385 NP** Zirconium conversion steel and aluminum room temp 4 stage higher detergency

**Emerald Paint Prep 389 NP** Zirconium conversion steel and aluminum room temp spray wand highest detergency

**Emerald Paint Prep 390 LT** Zirconium / phosphate combination steel room temp 4 stage

**Emerald Paint Prep 395 LT** Zirconium / Phosphate combination steel room temp 4 stage high detergency

## Steel (continued)

**Phos-Seal NC** Phos-Seal NC non-chrome sealer for phosphate conversions

**Emerald Seal 308** Zirconium Seal can be used on Phosphates

### BRIGHT DIP

**Laser Fe** Peroxide based dip to polish and smooth steel surfaces for various post treatments.

**SR Post Dip** Smut removal for high carbon steel post dip after Laser FE.

### MASS FINISHING

**Lusterlume NIXI** Liquid, near neutral general purposed burnishing compound for use on copper, copper alloys, stainless steel, and aluminum.

**Burn CPD 91** Liquid, heavy-duty, mildly alkaline, detergent based burnishing compound for use on multiple substrates producing a very high degree of luster.

**Burn CPD 220-A** Powder, mildly alkaline borax based burnish.

**Aquawash 237** Liquid, mild phosphate based cleaner / burnishing compound.

**Aquamill™ X** Liquid, accelerated chemical cutting solution for the removal of grind land belting lines when used with ceramic or plastic mass finishing media.

**Aquaease™ One-Step** Liquid, mild soap based burnishing compound that offer moderate corrosion resistance.

**Metal Guard® 800D** Liquid amine based burnish and corrosion inhibitor. Very effective at removing “black phase” after accelerated chemical cutting with products such as Aquamill X.

### METAL COLORING

**Black Magic™ Infusion** A premier liquid hot black oxide for ferrous substrates best for captive shop. Powder version available

**Activated Black Magic Plus™** A traditional powder hot black oxide for ferrous substrates best for job shop. Liquid version available

**Black Magic™ SS-C** Powdered black oxide for Cast Iron.

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## Steel (continued)

### ROOM TEMP BLACK FOR STEEL

<b>Black Magic™ RT 20</b>	A room temperature system for imparting a black surface on machined steel.
<b>Black Magic™ RT 25</b>	A room temperature system for imparting a black surface on steel stampings.
<b>Black Magic™ RT 26</b>	A room temperature system for imparting a black surface on cast iron and steel.
<b>Black Magic™ RT 30</b>	A room temperature system for imparting a black surface on powdered metal.

### CORROSION INHIBITORS-WATER BASED

<b>Metal Guard® 600</b>	Water reducible, clear, acrylic hard shiny film.
<b>Metal Guard® 919</b>	Water based wax emulsion, hard film.
<b>Metal Guard® 914</b>	Water based wax emulsion with copper anti-tarnish.
<b>Metal Guard® 700</b>	Water based steel anti- corrosive emulsion soft film.
<b>Metal Guard® 850</b>	Water based in process steel anti-corrosive.

### CORROSION INHIBITORS – SOLVENT BASED

<b>Metal Guard® 510</b>	High corrosion resistance, slightly oily.
<b>Metal Guard® 450</b>	Dry-to-touch, transparent, ultra-thin finish.
<b>Metal Guard® 480</b>	Dry-to-touch film with enhanced lubricity and corrosion resistance.
<b>Metal Guard® 500</b>	High corrosion resistance with good lubricity and penetration.

### CORROSION INHIBITORS – OIL BASED

<b>Metal Guard® 270</b>	Water displacing, non-voc, non-barium oil base. Thin film, non-staining.
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### CORROSION INHIBITORS – WATER SOLUBLE

<b>Metal Guard® 320</b>	Emulsifiable oil used at 150 F and 5-20% by volume. Leaves a dry-to-touch at low concentration.
<b>Metal Guard® 310</b>	Emulsifiable oil used at 150 F and 5-20% by volume. Leaves a more wet film at normal 10% concentration.



# Zinc

## CLEANERS –SPRAY

<b>Aquaease™ PL 714</b>	Liquid, heavy-duty silicate phosphate based general purpose cleaner.
<b>Cleaner P 005M</b>	Powder heavy-duty silicate non-etch cleaner for general.
<b>Lusterclean 40 LF</b>	Liquid, heavy-duty amine soap based cleaner. Excellent for removing stamping oils, deep drawing oils, and lubricants. Outstanding particular soil removal. Leaves a protective soap film. Excellent buffing compound remover.
<b>Aquaease™ PL 732</b>	Liquid, phosphate based cleaner. Effective at removing all metal working fluids. Extreme low foam characteristic.

## CLEANERS – SOAK

<b>Aquaease™ SL 80</b>	Liquid, heavy-duty silicate cleaner for removing heavy oils and soils. Tends for split out most oils.
<b>Lusterclean™ 40 LF</b>	Liquid, heavy-duty amine soap based cleaner. Excellent for removing stamping oils, deep drawing oils, and lubricants. Outstanding particular soil removal. Leaves a protective soap film. Excellent buffing compound remover.
<b>Aquaease™ CB 2</b>	Powder, silicate and phosphate containing, caustic free heavy-duty non-etch cleaner.

## CLEANERS – ELECTROCLEAN

<b>Aquaease™ E 9091</b>	Heavy-duty general purposed electro cleaner for use on copper base and ferrous alloys.
<b>Aquaease™ E 9354</b>	Powder, phosphate free, chelating agent free, heavy-duty cleaner with good detergency.

## ACID CLEANER

<b>Aquaease™ SL 108</b>	Low temperature (110 F) acid cleaner/ detergent.
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## ACID ACTIVATOR

<b>Acid Salt GP</b>	For pickling and activating prior to electroplating.
<b>Acid Salt M</b>	Unwetted, to replace sulfuric and hydrochloric acids

Better Chemistry. Better Business.

## Zinc (continued)

### PHOSPHATES – IRON

<b>Mi-Phos™ 26</b>	one component product. Used in three to five stage washers. Liquid.
<b>Hubfos AL</b>	Will impart a complex conversion coating when used in conjunction with Hubfos 12 S.
<b>Emerald Paint Prep 380 NP</b>	Zirconium conversion for zinc and aluminum and steel

### BRIGHT DIPS

<b>Die Brite 54</b>	Liquid, to bright dip Zamak 3 zinc die coatings.
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### MASS FINISHING

<b>Enerox™ Burnishing CPD ZBA-1</b>	Liquid, near neutral, high detergency burnishing compound for aluminum, brass, copper alloys, stainless steel, and zinc. Creates lustrous surfaces.
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### METAL COLORING

<b>Black Magic™ RT-Z40</b>	Liquid Room temperature, cosmetic nickel-based black coating.
<b>Black Magic™ ZX</b>	Powdered molybdate-base black for zinc die cast and plate.
<b>Black Zinc</b>	Powdered sulfate based black for Zamac 3.

### CORROSION INHIBITORS

<b>Metal Guard® 600</b>	Clear, water reducible acrylic.
<b>Metal Guard® 480</b>	Dry-to-touch wax.

### WASTE TREATMENT

We have a complete line of specially blended coagulants, metal precipitants and flocculants to meet your needs for waste treatment. Please contact us for help in meeting your effluent requirements.