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TECHNICAL DATA

E-Kleen™ Metal Cleaning Products

All Metals Soak Cleaners

E-Kleen 148-E

A heavy duty liquid detergent formulation which is effective at low operating temperatures on all metal surfaces without etching aluminum. It is a low caustic, emulsifiable (doesn't float oil) cleaner.
Concentration: 5 to 12% by volume in water
Temperature: 100° to 150°F
Time: 3 to 5 minutes

E-Kleen 152

This product contains unique combinations of special surfactants and polymers along with alkaline builders to provide excellent scale control, detergency, soil penetration, emulsification and dispersion. It eliminates redeposition of soils while providing long bath life. The low-foaming solution is designed to work with air agitation which facilitates faster cleaning.
Concentration: 8 to 12% by volume in water
Temperature: 150° to 180°F
Time: 3 to 5 minutes

E-Kleen 154

An acidic, solvent based, multi-metal cleaner and mild aluminum etchant. It is a liquid blend of acid, solvent, surfactants and complexers formulated to achieve in one step, the cleaning and preparation of a variety of metal surfaces prior to blackening, phosphating and chromating. **E-Kleen 154** cleans aluminum very well with slow controlled etching of the aluminum surfaces. It is also a good pre-paint conditioner for steel.
Concentration: 5 to 50% by volume in water
Temperature: 65° to 140°F
Time: 1 to 5 minutes

E-Kleen 196

It is a low caustic, liquid, non-emulsifiable (floats oil) cleaner for steel and all metals. It is a heavy duty silicated, alkaline detergent formulation which is very effective in removing baked on carbon, cutting oils, waxes and buffing compounds. **E-Kleen 196** works well in black oxide and plating lines. It contains no chelators or phosphates.
Concentration: 5 to 12% by volume in water.
Temperature: At 190°F and above, the effectiveness of the surfactant system doubles as compared to 140°F. However, it is still an effective cleaner at 140°F.

All Metals Spray & Soak Cleaners

E-Kleen 148-B **A low temperature spray and Ransohoff cleaner for all metals**. It is a heavy duty liquid detergent formulation which is very effective at low operating temperatures of 100° to 140°F on all metal surfaces and without etching aluminum. It contains no chelators and is low-foaming and is ideal for cleaning metal parts in soak cleaning, high pressure spray washing and Ransohoff machines. Its surfactants penetrate and loosen stubborn soils which are then swept away in the rinse stage. **E-Kleen 148-B** is a low caustic and non-emulsifiable (floats oil) cleaner.

Concentration: **Soak:** 5 to 12% by volume in water
Spray: 0.5 to 3.0% by volume in water
Ransohoff Cleaning: 3 to 9% by volume in water
Temperature: 100° to 180°F

E-Kleen 149 A heavy duty granular detergent formulation which will be very effective at low operating temperatures of 100° to 140°F on all metal surfaces and without etching aluminum. **E-Kleen 149** is low-foaming and is ideal for cleaning metal parts in high pressure spray washing machines. Its surfactants penetrate and loosen stubborn soils which are then swept away in the rinse stage. The versatile **E-Kleen 149** is equally effective for soak immersion cleaning of all metal surfaces. It provides long solution life and rinses freely. It floats oils.

Concentration: **Spray:** 0.5 to 2 weight ounces per gallon of water
Soak: 4 to 10 weight ounces per gallon of water
Temperature: 100° to 180°F

E-Kleen 149-L It is a heavy duty liquid detergent formulation which is very effective at low operating temperatures of 100° to 140°F on all metal surfaces and without etching aluminum. The versatile **E-Kleen 149-L** is equally effective for soak immersion cleaning of all metal surfaces. It provides long solution life and rinses freely. It inhibits rust on steel surfaces following cleaning and rinsing for temporary protection during in-plant processing of parts. It floats oils.

Concentration: **Spray:** 0.5 to 3.0% by volume in water
Soak: 3 to 10% by volume in water
Temperature: 100° to 180°F

E-Kleen 166 A heavy duty alkaline spray, liquid detergent formulation which is very effective in removing baked on carbon, cutting oils, waxes, buffing compounds and other soils. It contains no chelators or phosphates which makes waste treatment easy. It is low-foaming and is ideal for cleaning metal parts in high pressure spray washing and Ransohoff machines. Its surfactants penetrate and loosen stubborn soils which are then swept away in the rinse stage. **E-Kleen 166** is a low caustic and non-emulsifiable (floats oil) cleaner.

E-Kleen 166 has replaced other cleaners lasting almost twice as long as competitive cleaners. Temperature is important for effective cleaning. **Do not exceed** 150°F. Higher temperatures will decrease the effectiveness of the cleaner.

Concentration: Ultrasonic Cleaning: 1 to 8% by volume in water
Soak Cleaning: 5 to 12% by volume in water

	Spray Cleaning:	0.5 to 3% by volume in water
	Ransohoff Cleaning:	3 to 9% by volume in water
Temperature:	100° to 150°F	

E-Kleen 190 A heavy duty alkaline spray, liquid detergent formulation which is very effective in removing baked on carbon, cutting oils, waxes, buffing compounds and other soils. It is low-foaming and is ideal for cleaning metal parts in high pressure spray washing. Its surfactants penetrate and loosen stubborn soils which are then swept away in the rinse stage. **E-Kleen 190** contains no caustic or phosphates and emulsifies oils.

Concentration:	Ultrasonic Cleaning:	1 to 8% by volume in water
	Soak Cleaning:	5 to 12% by volume in water
	Spray Cleaning:	0.5 to 3% by volume in water
Temperature:	100°F to 200°F	

Steel Soak Cleaners

E-Kleen 101 Heavy duty, granular, caustic, low silicate, high detergent cleaner used at 8 to 10 oz./gal. of water. Floats oils.
Temperature: 160° to 200°F

E-Kleen 102 A liquid, high caustic formulation with a very high surfactant package. Used at 5 to 10% by volume in water at 180°F. It floats oils.

E-Kleen 105 Heavy duty, granular, caustic soak cleaner. It does not contain silicates and therefore is very free rinsing. It operates at low temperatures (120° - 160°F) and offers excellent scale control and water softening properties. It emulsifies oils. Used at 8 to 10 wt. oz./gal. of water.

E-Kleen 110 Heavy duty, granular, low temperature, non-silicated cleaner with high detergency and suspension properties. Free rinsing. Emulsifies oils.
Concentration: 8 to 10 oz./gal. of water
Temperature: 65° to 160°F

E-Kleen 111 Heavy duty, granular, high caustic, non-silicated cleaner. Emulsifies oils.
Concentration: 6 to 16 oz./gal.
Temperature: 160° to 200°F

E-Kleen 115 Combination soak cleaner and deruster. Granular mixture high in caustic and silicate. Emulsifies oils. Used at 10 to 16 oz./gal. of water.
Temperature: 160° to 220°F

Please also see **E-Kleen 148E** and **196** under the heading "**All Metals Soak Cleaners"**

Steel Electrocleaners

E-Kleen 120 Heavy duty, strong alkaline, highly conductive reverse current cleaner. Granular mixture used at 8 to 16 oz./gal. It also makes an excellent soak cleaner.
Temperature: 180° to 200°F
Current density of 50 to 140 amps/sq.ft. at 4 to 6 volts.

E-Kleen 127 A unique liquid concentrate of surfactant and caustic for anodic (reverse) electrocleaning and effective soak cleaning. Contains no phosphates, chelators or silicates. It has the unique characteristic for a liquid sodium hydroxide formulation of being freezable without having the typical crystallization problems. It thaws out at room temperature. Emulsifies oils when used as a soak cleaner.
Concentration: 5 to 12% by volume in water
Temperature: 140° to 200°F
Rack cleaning: 5 to 6 volts at 15 to 80 amps/sq. ft.
Barrel cleaning (oils): 12 to 15 volts at 20 to 30 amps/sq. ft.

E-Kleen 129 Heavy duty, granular product formulated for anodic electrocleaning and smut removal on steel and copper. It is non-phosphated, non-chelated with heavy soil loading capacity.
Concentration: 8 to 10 oz./gal.
Temperature: 100° to 200°F
Current density of 50 to 100 amps/sq. ft. at 4 to 6 volts

Steel Spray & Soak Cleaner

E-Kleen 151 A liquid formulation for ease of handling. Used at 3 to 10% by volume in water at 120° to 200°F. This heavy duty detergent, highly alkaline (potassium hydroxide) liquid will quickly remove fabricating soils, drawing and buffing compounds, grease and oils from steel and stainless steel. It floats oils.
It is low-foaming and is ideal for cleaning metal parts in high pressure spray washing machines. The versatile **E-Kleen 151** is equally effective for soak immersion cleaning of steel surfaces.

Please also see **E-Kleen 166** and **190** under the heading "**All Metals Spray and Soak Cleaner.**"

Die Cast Zinc, Copper and Brass Soak & Electrocleaners

E-Kleen 125 A powdered mixture of surface agents, detergents, suspension agents and buffers which will not attack zinc die castings or slush castings when used in water as a heavy duty electrolytic and soak cleaner. It floats oils.
Concentration: 4 to 10 oz./gal. of water
Temperature: 140° to 200°F (140° to 160° for brass)
Immersion time: 15 seconds to 2 minutes
Polarity: Anodic (reverse current)

E-Kleen 173 A mildly alkaline powdered mixture. It contains a chrome reducer and is excellent for short cleaning cycles. It is recommended as a cathodic cleaner for die cast zinc and white metal with short current reversal to anodic prior to removal of a rack. It is an excellent combination soak and anodic cleaner for brass, copper and steel. It emulsifies oils.

Concentration:	8 to 10 oz./gal. of water
Temperature:	130° to 150°F
Voltage:	1/2 to 1 volt for cathodic cleaning of zinc die cast 5 to 7 volts for anodic cleaning of other metals
Amperage:	15 to 20 amps per square foot
Time:	15 to 40 seconds

Aluminum Cleaners

E-Kleen 130 **A non-etch, silicated soak cleaner for aluminum**. It is a granular mixture of alkaline materials and surface active agents which, when dissolved in water, forms a highly buffered cleaning solution which will not etch aluminum surfaces. It is used prior to etching, anodizing or plating aluminum. It has excellent life.

Concentration: 6 to 8 oz./gal. of water
Temperature: 160° to 180°F
Time: 2 to 5 minutes

E-Kleen 131 **A non-etch, non-silicated, alkaline soak cleaner for aluminum.** It is an off-white colored, non-dusting, free-flowing powdered product developed primarily for the alkaline soak cleaning of aluminum prior to etching, anodizing or plating. The product dissolves readily with water and its solution rinses freely. It does not dull the surface of bright aluminum. It does not contain chromates or silicates.

E-Kleen 131 has good water softening properties, thus allowing the special blend of surfactants present in the product to provide for good detergency and emulsification when encountering hard water. These properties are essential for rapid cleaning and complete soil removal. Besides aluminum, it can be used for cleaning other metals that have light soil on them.

Concentration: 6 to 8 oz./gal.
Temperature: 160° to 180°F
Time: 3 to 5 minutes

E-Kleen 133 A heavy duty etchant and soak cleaner which is silicated for use on aluminum. It is a free-flowing, dry granular mixture of highly buffered alkaline materials which will clean and etch aluminum surfaces while preventing the build-up of aluminum compounds on tank walls.

Concentration: 3 to 6 oz./gal. of water
Temperature: 140° to 160°F
Time: 2 to 5 minutes

E-Kleen 139 **A mild etchant and cleaner for aluminum**. It is a dry, free-flowing powdered mixture of alkaline and surfactant materials which, when dissolved in water, will clean soils from aluminum surfaces with a uniform and very slightly etched surface.
Concentration: 6 to 8 oz./gal. of water
Temperature: 140° to 180°F
Time: 2 to 5 minutes

E-Kleen 155 **A non-phosphated acid aluminum cleaner & brightener.** It is a liquid concentrate blend of acid and surfactants formulated to achieve in one step, the cleaning and preparation of a variety of metal surfaces prior to blackening, phosphating and chromating. It can be used following conventional alkaline soak cleaners to ensure neutralization of residual alkalinity prior to acidic blackening or oxidizing processes. It is an effective surface conditioner/activator prior to **Insta-Blak** acidic blackening processes. It will remove light oils, light rust and most shop soils efficiently and quickly.

E-Kleen 156 **A phosphated acid aluminum cleaner & brightener.** It is a liquid concentrate blend of acid and surfactants formulated to achieve in one step, the cleaning and preparation of a variety of metal surfaces prior to blackening, phosphating and chromating. It can be used following conventional alkaline soak cleaners to ensure neutralization of residual alkalinity prior to acidic blackening or oxidizing processes. It is an effective surface conditioner/activator prior to **Insta-Blak** acidic blackening processes. It will remove light oils, light rust and most shop soils efficiently and quickly.

E-Kleen 156B **An acid fluoride & phosphate aluminum cleaner & brightener.** It is a liquid concentrate blend of acid and surfactants formulated to achieve in one step, the cleaning and preparation of a variety of metal surfaces prior to blackening, phosphating and chromating. It can be used following conventional alkaline soak cleaners to ensure neutralization of residual alkalinity prior to acidic blackening or oxidizing processes. It is an effective surface conditioner/activator prior to **Insta-Blak** acidic blackening processes. It will remove light oils, light rust and most shop soils efficiently and quickly.

E-Kleen 163 **A neutral phosphated multi cleaner for aluminum, brass, steel, zinc & stainless steel**
It is a liquid neutral soak cleaner based on phosphates. It provides excellent detergency and cleaning of all metal surfaces. It contains organic surfactants and corrosion inhibitors but no caustic soda or chelants. It also does not deposit on the side of the tank like other cleaners.
Concentration: 5 to 15% by volume
Temperature: 120 - 200°F
Time: 1 – 10 minutes

E-Kleen 163-LF **A neutral, low foaming phosphated cleaner for aluminum.** It is a liquid neutral soak cleaner based on phosphates. It provides excellent detergency and cleaning of all metal surfaces. It contains organic surfactants and corrosion inhibitors but no caustic soda or chelants. It also does not deposit on the side of the tank like other cleaners.
Concentration: 5 to 15% by volume
Temperature: 120 - 200°F
Time: 1 – 10 minutes

E-Kleen Defoamer It is an oil based organic defoamer that can be used for a wide variety of foam control applications. It does not contain any silicone, which is favorable in painting operations and other silicone sensitive environments. It is stable even at very high pH conditions. It is used in spray wash cleaners, rinse tanks after spray washers and waste water applications.
Concentration: Spray wash cleaner/rinse tank: 100 to 300 ml/100 gallons of solution.
Waste water: 5 to 50 ppm

E-Kleen Cr Reducer A liquid sugar based chrome reducer for soak cleaning and electrocleaning.
Concentration: 1% to 3% by volume.

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