

E-Kleen™ Metal Cleaning Products

All Metals Soak Cleaners

- EPI's latest cleaners can be found in our E-Kleen SR product line.

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 153 Liquid mixture of surface active agents, immersion desmutters, detergents, silicate, phosphates and caustic that will emulsify the soils and oils. Does not contain chelators. ideal for soak, electro, and ultrasonic cleaning of steel, stainless steel, copper, brass, bronze, zinc diecast and aluminum.

Concentration: 8 to 12% by volume in water (Soak/Electroclean)
Temperature: 130° to 180°F (Soak/Electroclean)
Time: 3 to 5 minutes (Varys by process and metal)

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, is low-foaming and is ideal for cleaning metal parts in soak. 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-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

- See E-Kleen SR product line

E-Kleen 173-E Combination electrolytic and soak cleaner. Mildly alkaline powdered mixture. Emulsifies oils. Used at 8 to 10 oz./gal. of water.
Temperature: 130° to 150°F

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

Steel Electrocleaners

- See E-Kleen SR product line

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

E-Kleen 129-L A liquid concentrate fomulation. 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: 6 to 15% by volume
Temperature: 160° to 200°F
Current density of 50 to 100 amps/sq. ft. at 4 to 6 volts

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 153 A liquid mixture of surface active agents, immersion desmutters, detergents, silicate, phosphates and caustic that will emulsify the soils and oils.

Concentration: 8 to 12% by volume in water
Temperature: 130° to 180°F°
Immersion time: Soak = 5 to 10 minutes,
Electrocleaning = 0.5-5 minutes for steel, 10-60 seconds for brass, copper, and zinc die-cast
Current Density: 30 – 100 ASF for steel, 10 – 30 ASF for copper and brass, 10 – 25 ASF for zinc diecast

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 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-A**

A non-etch neutral phosphated multi cleaner for aluminum, brass, & zinc.

is a liquid, non-etch neutral soak cleaner based on borates and 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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