Technic's Eco Product Line

Safer, Cleaner, Economical

Environmental Stewardship

At Technic, we recognize our responsibilities to the safety and health of the natural environment, our customers, our employees, and the communities in which we operate. As a socially responsible corporation, we are committed to complying with all relevant environmental, health and safety legislation at local, regional, national and global levels.

Technic maintains a steadfast commitment to our environmental responsibilities by continuously improving our products and production methods through appropriate initiatives, controls, and the training of our employees, contractors and customers.

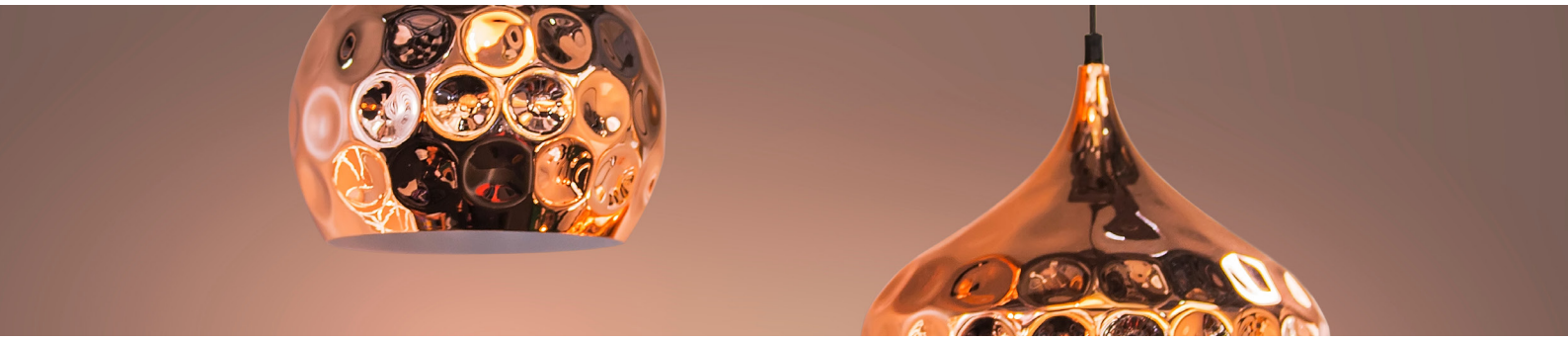
We are committed to the following four practices:

- Safe, responsible and effective waste management and disposal.
- Promotion of the reuse and recycling of materials.
- Heightened and maintained awareness of environmental, health and safety regulations.
- Application and review of safety, health, and environmental objectives and targets.

We affirm these principles by striving to continuously improve all aspects of the manufacturing and logistical processes within our operations, as well as by researching and developing chemical formulations that minimize or eliminate adverse environmental impacts. These activities are particularly relevant, as the electroplating industry is currently under an increasing amount of pressure, due to new regulations that are impacting the current and future use of chemicals.

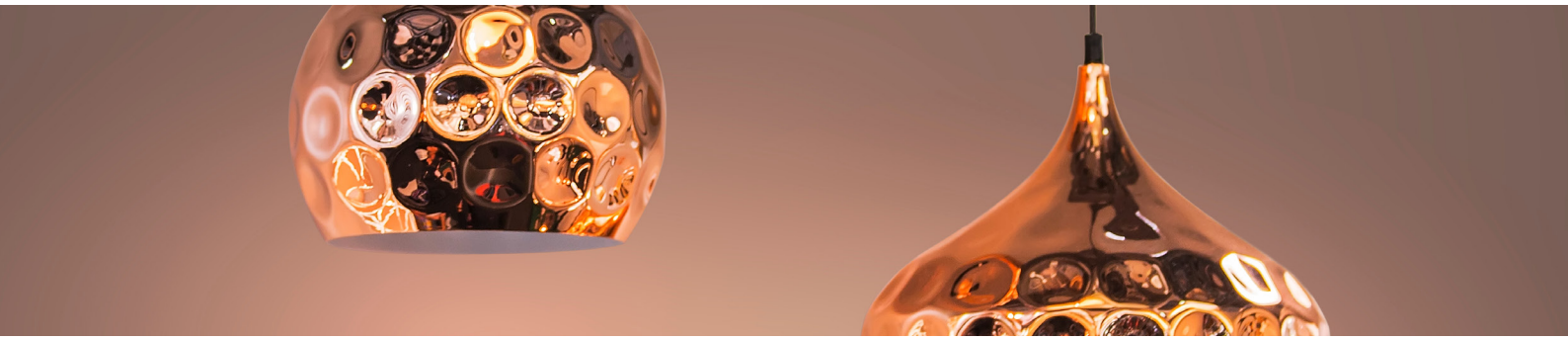
In Europe, the industry is required to work on minimizing the use of carcinogenic, toxic for reproduction and mutagenic substances, as well as Substances of Very High Concern (SVHC). In this context, Technic continues to be a leader in the development of chemical solutions that are free of toxic components and safer for the environment, while continuing to guarantee high performances.

With this in mind, Technic has created an innovative **Eco Product Line** that showcases safer, cleaner products with excellent performance, while improving the sustainability of processes at the same time.



Decorative

Product	Description	Features
Glance Cu 160	**Cyanide-free** alkaline copper	• Produces fine-grained, pore-free, smooth copper deposits. • Simpler, cheaper wastewater treatment. • Does not require treatment of carbonates. • Does not require any pre-copper plating operation. • Does not pose any risk to the environment and human health. • Much lower copper metal concentration vs cyanide-based solutions.
Glance Cu 9002	**Lead-free** electrolytic alkaline copper	• Excellent stability. • Suitable for both rack and barrel applications. • Produces bright deposits on iron, steel and zinc-die-casting.
Glance Lux 2	**Boric acid-free** nickel	• Completely free of all boron compounds. • Produces bright, ductile, level, white deposits. • Simple management with programmable feeding system. • Lower production costs, thanks to very stable additives.
Mark 833	**Selenium-free** blackening for brass	• Produces deposits of an intense black color. • Blackening is easily obtained by simple chemical dip.
Protex 65	**Chrome-free** organic passivation for copper and copper alloys	• Resist 96 hours to test UNI EN 4611. • Simpler, cheaper wastewater treatment.
Tarniban 2000	**Chrome-free** organic passivation, suitable for all copper alloys	• Economical to operate. • Meets MIL SPEC.QQS-365A. • High protection against tarnish/oxidation. • No detrimental effects on solderability. • Resist 96 hours to test UNI EN 4611. • Simpler, cheaper wastewater treatment.
Tarniban 51	**Chrome-free** antioxidant and anti-tarnish for silver, copper and copper alloys	• No detrimental effects on solderability. • Resist 96 hours to test UNI EN 4611. • Meets MIL specifications QQS-365A.
Tech OX P	**Selenium-free** blackening for silver and white bronze	• Produces dark-colored deposits with black nuances. • Blackening is easily obtained by simple chemical dip.



Decorative

Product	Description	Features
TechniClear 1100	**Water-based**, acrylic urethane cataphoretic lacquer	• Non-flammable. • Low solvent levels mean the product is non-hazardous. • Can be cured at low temperatures starting at 125˚C. • Scratch resistant. • Economical to run. • Compatible with post dyes and integral pigments.
TechniClear Eco-Strip	Stripper for cataphoretic lacquer	• Contains no amines. • No **chlorinated solvents** or strong alkaline materials.
Techni ECO Cu 2200	**Cyanide-free** alkaline copper for zamak	• Specifically designed to obtain excellent functionality on zamak. • Produces semi-bright to bright deposit. • Does not require any copper strike. • Low concentration of copper in the bath.
Techni Pal PF	**Cobalt** and **nickel-free** palladium/iron alloy	• Produces white deposits. • Suitable for applications requiring hypoallergenic solutions.
Techni Silver CY Less II W	**Cyanide-free**, mildly alkaline silver plating	• Sulphur-free deposit. • Produces bright, white and leveled deposits. • Suitable for decorative or electronic applications. • Can be deposited on nickel and other hard-to-plate substrates.
Techni Strip SM New	Liquid **chlorinated solvent-free** descaling stripper	• Does not contain toxic substances, e.g. **DMF**, **phenols**, **ketones**. • Non-flammable. • Non-aggressive for the majority of surfaces.

Finishing for Electronics

Product	Description	Features
Convergence Nickel EF BF	**Boric acid-free** nickel	• Completely free of all boron compounds. • Deposits are ductile and low stress. • All liquid products; no handling or additions of solids. • Supplied as a ready-to-use solution. • Wide current density range 5-400 ASF/ 0.5-40 ASD. • Meets Fed Spec QQ-N-290A, Class 1 and ASTM B689-97, Type 1.
Goldeneye Nickel BF	**Boric acid-free** low stress/ highly corrosion-resistant nickel	• Completely free of all boron compounds. • Improved corrosion resistance vs sulfate or sulfamate processes. • Reduced waste treatment costs. • Increased solution conductivity. • Suitable for reel-to-reel, rack and barrel applications.
Goldeneye Nickel-Iron BF	**Boric acid-free** nickel-iron process	• Designed to deposit an 80/20 Ni/Fe alloy in various applications. • Completely free of all boron compounds. • Highly magnetic coating. • High level of solution stability.
High Speed Nickel Sulfamate FFP BF	**Boric acid-free** nickel for high speed, high current density applications	• Completely free of all boron compounds. • Capable of plating at current densities up to 400 ASF (40 ASD). • Deposits are ductile and low stress. • Semi-bright deposit from sulfamate electrolyte.
Pallaspeed® Palladium Nickel NFA	**Ammonia** and **chloride-free** alloy plating process	• Higher operating temperatures for high current density operations. • Neutral operating pH. • Corrosion resistant (low porosity) and solderable deposits. • Replacement for heavy gold with gold-flash.
Techni Cyless Silver 915	**Cyanide-free** silver	• Completely free of all cyanide compounds. • Exceptional chemical stability and outstanding deposit quality. • Produces high purity silver deposits from a cyanide-free solution. • Deposits maintain high hardness values after aging.

Finishing for Electronics

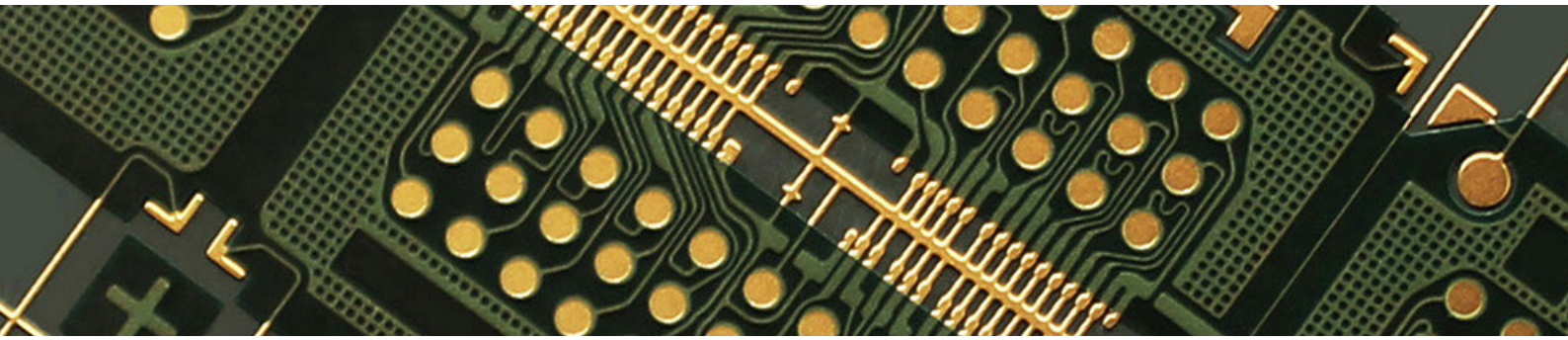
Product	Description	Features
Techni ECO Antioxidant	**Carcinogen-free** antioxidant for tin and tin alloys	• Does not contain any carcinogenic substances. • Provides safer working environment. • Significantly reduces sludge buildup in tanks. • Improves anode functionality. • Reduces the cost of tin replenishment. • Minimizes oxidation of stannous tin in tin/tin alloy solutions.
Techni Gold 25ES	Neutral **cyanide-free** gold	• Completely free of all cyanide compounds. • Exceptional chemical stability and outstanding deposit quality. • High purity, low hardness deposits from a non-cyanide solution. • Deposit appearance can be adjusted from full bright to satin. • Suitable for electronics, semiconductor, and electroforming.
Techni Nickel S-BF	**Boric acid-free** nickel that produces low stress, semi-bright, ductile deposits	• Completely free of all boron compounds. • Soft to hard deposits with good ductility. • Controllable electrical resistivity of deposit. • Ability to alter physical properties of the deposit for various uses.
Techniphos 615	**Boric acid-free** electrolytic nickel/phosphorous (NiP)	• Completely free of all boron compounds, no crystallization. • Consistently deposits greater than 10% phosphorous. • Non-magnetic deposit - suitable for high frequency/5G applications. • Potential reduction in precious metal thickness. • Improved corrosion resistance vs pure nickel barrier layers.
Techniseal Ag	Clear **chrome-free** nanoscale anti-corrosion/anti-discoloration coating, for high-temperature applications	• Cathodic electrolytic passivation. • Suitable for rack, barrel, and reel-to-reel. • Passes heat aging test. • Passes sulfur corrosion test. • Excellent silver deposit protection. • No discoloration.
Technistan EP	**Lead-free**, high speed electrolytic matte tin	• Tin whisker resistant. • Based on proprietary and patented mixed acid technology. • Industry standard for Pb-free plating for over 10 years.

Industrial

Product	Description	Features
Metasu Lubrus CE 1	Water-based **chrome-free** clear top coat agent	• Suitable for both immersion (dip/spin) and spray applications. • Reduces fitting failures caused by excessive coating. • High corrosion resistance and consistent total friction coefficient. • Produces a uniform, bright finish without iridescence.
Metasu Lubrus KE 1	Water-based **chrome-free** black top coat agent	• Suitable for both immersion (dip/spin) and spray applications. • High corrosion resistance and consistent total friction coefficient. • Reduces fitting failures caused by excessive coating. • Produces a uniform, bright finish without iridescence.
Sirio 600	Versatile **boron-free** potassium chloride zinc plating	• Better adhesion in conversion treatment vs conventional brighteners. • Good compatibility with trivalent conversion coating. • Particularly effective when used with trivalent black.
Techni Chrome 300	Trivalent chromium for decorative and industrial applications	• Completely **free of carcinogenic substances**. • Color of deposit fully comparable to deposits obtained with hex chromium. • Better throwing power vs hexavalent chrome-based processes. • Bright deposits at thicknesses > 0.5 µ. • Simpler, cheaper wastewater treatment. • Higher deposition rate (0.05-0.08 µm / min).
Techni ECO Antioxidant	**Carcinogen-free** antioxidant for tin and tin alloys	• Does not contain any carcinogenic substances. • Provides safer working environment. • Significantly reduces sludge build-up in tanks. • Minimizes solution turbidity during operation. • Improves anode functionality. • Reduces the cost of tin replenishment. • Minimizes oxidation of stannous tin in tin and tin alloy solutions.

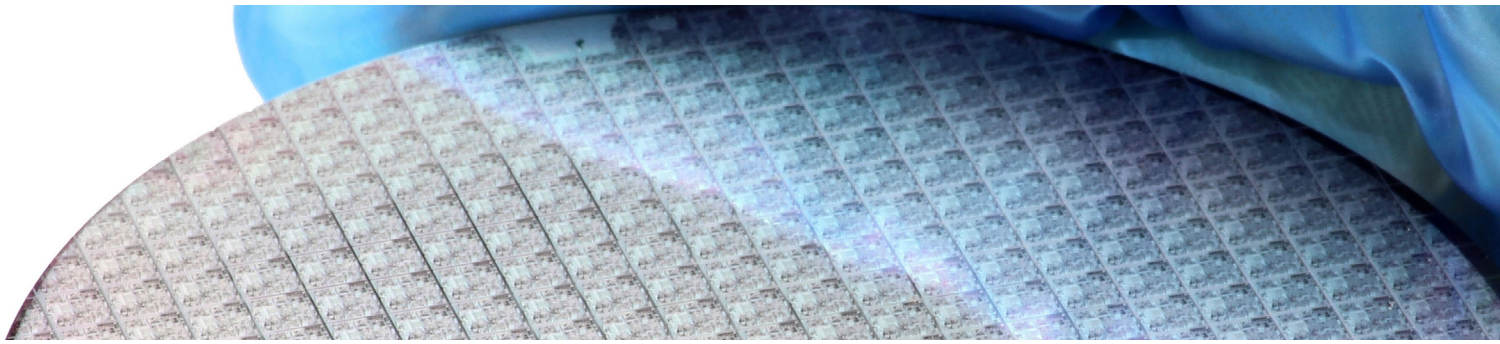
Industrial

Product	Description	Features
Techni ECO BT 2	Bright acid tin for rack and barrel, **free from nonyl-phenols**	• Free from SVHC substances. • Does not contain any carcinogenic substances. • Excellent solderability. • Whisker-resistant deposit. • High cathodic efficiency.
Techni Ni 19 L	**Formaldehyde-free** nickel brightener	• High ductility. • Suitable for rack and barrel applications. • Good levelling and throwing power.
Technic EN AT 5600	**Lead** and **cadmium-free** medium phosphorous electroless nickel	• Consistent rate plates, extremely stable. • Meets IPC 4552. • ELV, RoHS and WEEE compliant.
Techni EN 6500 PT	**Lead** and **cadmium-free** medium phosphorous electroless nickel for high speed	• RoHS, WEEE and ELV compliant. • Exceptional stability. • Consistent plating rates. • High tolerance to impurities. • Produces consistent pit-free, smooth and bright deposits.
Techniseal Ag	Clear **chrome-free** nanoscale anti-corrosion/anti-discoloration coating, for high-temperature applications	• Suitable for rack, barrel, and reel-to-reel applications. • Passes heat aging test. • Passes sulfur corrosion test. • Excellent silver deposit protection. • No discoloration.
Wonder CF-B 10	**Cobalt-free** trivalent chromium black passivation for alkaline and acid zinc	• RoHS compliant. • Produces uniform black deposits even on acid zinc.
Wonder CFY 1	**Hexavalent chrome** and **cobalt-free** blue conversion, for acid and alkaline zinc	• Very high corrosion resistance. • Meets SVHC of REACH regulation. • Possible to obtain rainbow coating.
Wonder Z BL 30	**Cobalt-free** trivalent chromium blue conversion, for acid and alkaline zinc	• Passivation with low resistance to white rust. • RoHs compliant.



PWB

Product	Description	Features
Technic EN 5600 IMP	**Lead** and **cadmium-free** medium phosphorus electroless nickel	• Exceptional chemical stability. • Low minimum loading and no break-in period. • Meets IPC4552. • RoHS Compliant. • Deposits are solderable and wire bondable.
Technic EN 5810	**Lead** and **cadmium-free** high phosphorus electroless nickel	• Meets PC 4552 ELV. • RoHS and WEEE compliant. • Capable of thin pore free deposits for 5G and flex applications.
Technic IM Gold AT 8000	**Cyanide-free** immersion gold	• Long bath life: high tolerance to contamination. • Uniform planar deposits. • Operates at lower gold concentration. • Excellent solderability.
TechniClean 207AP	Liquid, low-foam acid cleaner for copper and copper alloys	• No ROHS restricted materials. • No **chelating agents**, **heavy metals** or **solvents**. • Rapid removal of tarnish and oxide from copper with minimal attack. • Low foam, especially suitable for spray, immersion with agitation. • Economical to use. • Easy disposal.
TechniFlex LCL1000F	**Bisphenol A, halogen, Sb, Be** and **phthalate-free** black flexible solder mask	• RoHS compliant. • Meets IPC SM 840E, Bellcore TR-NWT-000078, and MIL P55110D. • NASA outgassing specification. • High flexibility. • Extremely high heat resistance to multiple soldering operations.
TechniPad IS 7070	Stable **cyanide** and **nitrate-free** immersion silver for deposition onto copper and copper alloys	• Environmentally friendly immersion silver for dip applications. • Gives consistent solderability. • Flat solderable surface. • Excellent tarnish-resistant deposits. • RoHS and WEEE compliant.



Semiconductor

Product	Description	Features
Elevate EN 505	**Cadmium** and **lead-free** advanced electroless nickel	• Exceptional chemical stability. • RoHS Compliant. • Low minimum loading and no break-in period.
Elevate Gold 7990 NBV HT	**Cyanide, thallium** and **arsenic-free** gold plating	• Smooth, bright deposit without using harmful metallic grain refiners. • Extended bath life of 4–5 metal turnovers in most applications. • Able to deposit 2–3 times more gold in vias vs standard sulfite gold.
Elevate Ni 5950	**Boric acid-free** electrolytic nickel for semiconductor	• High efficiency. • Very stable solution over bath life. • Ideal for use in wafer fabs, thanks to its all liquid components. • Low stress, semi-bright deposit. • Operates up to 10 ASD.
TechniStrip CU XP	Stripper specifically formulated to strip copper deposits from stainless steel substrates	• Does not contain any **hydrogen peroxide**, **fluoride** or **boron**. • Produces very little sludge. • Designed for use in immersion stripping.
TechniStrip NF90	**TMAH-free** stripper	• Offers similar performance to TechniStrip NF52. • High resin dissolution and excellent metal compatibility.
TechniStrip® Micro D2	Versatile **NMP, DMSO-free** photoresist stripper	• Alternative for NMP, DMSO and DMSO/Amine based photoresist strippers. • Non-hazardous replacement for NMP. • Lower running cost than NMP. • Improved performance over NMP and DMSO-based resist strippers.