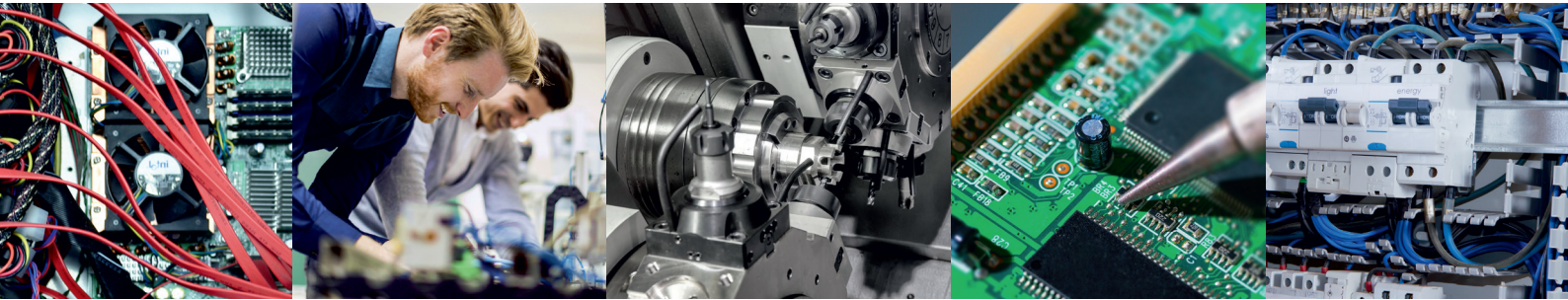




Electronic Cleaning Solutions



QUALITY PRODUCTS FOR ALL SEGMENTS OF THE ELECTRICAL- AND ELECTRONIC INDUSTRY

FOR PRODUCTION, SERVICE, REPAIR AND MAINTENANCE



Cleaner

02 CONTACT CLEANER

Universal cleaner for Contacts and Electrical-Equipment

CONTACT CLEANER is based on a special balanced mixture of high-quality, powerful and clean solvents. The low surface tension and wetting ability guarantees a quick penetration of the surface pores, removing oil, grease, dirt and other contaminants. CONTACT CLEANER evaporates quickly and leaves no residues. It is of functional use wherever high quality cleaning is required.



CONTACT CLEANER

Colour	Colourless, Clear
Smell	Alcohol
Density	0,67 g/cm ³
Evaporation	Rapid
Residue	None
Compatibility with plastic	Good
Surface tension	22 mN/m
Container size	400 ml
Quantity/box	12 spray cans 400 ml
Art. No. 400 ml	702.400.000

04 ISOPROPANOL

Universal and mild, cleaner with a purity of >99.9%.

ISOPROPANOL is a universal and mild Cleaner with excellent wetting and dissolving ability. This guarantees quick and reliable removal of contaminations such as dust, fingerprints, oil and all kind of light dirt. ISOPROPANOL does not attack any material and evaporates very quickly without leaving any residues. Effective cleaning of electrical and mechanical parts, cleaning of soldering residues and screen-printing stencils. ISOPROPANOL is very suitable for cleaning of precision instruments and sensitive optical equipment.



ISOPROPANOL

Colour	Colourless, Clear
Smell	Alcohol
Density	0,78 g/cm ³
Evaporation	Rapid, complete
Residue	None
Material compatibility	Very good
Purity	99,9%
Container size	400 ml
Quantity/box	12 spray cans 400 ml
Art.-No. 400 ml	704.400.000



06 ELEKTRO DEGREASER

Electro Degreaser is a high efficient cleaner to remove oil and greases

ELECTRO DEGREASER is a special mixture of various heavy duty solvents to remove oil and greases from electrical and mechanical equipment quickly and reliably. It also removes wax, dirt, moisture and other heavy soiling. ELECTRO DEGREASER evaporates and leaves the surface clean and dry without any residues. Due to its low surface tension ELECTRO DEGREASER penetrates into inaccessible areas and thin cracks, removing the contamination and moisture. Therefore it improves the performance and prolongs the lifetime of the equipment. ELECTRO DEGREASER is suitable for degreasing of installations, appliances and components. Particularly suitable for electric motors, high-voltage switchgear, cables, switchboards, cables, wire ropes and chains. However, it is equally suitable for the cleaning of mechanical equipment such as brakes, clutches, air tools, air conditioners and compressors.



ELECTRO DEGREASER

Appearance	Clear, colourless liquid
Smell	Solvent
Density at 25°C	0,83 g/cm ³
Evaporation	Average
Material compatibility	Good
Surface tension	27 mN/m
Container size	400 ml
Quantity/box	12 spray cans 400 ml
Art. No. 400 ml	706.400.000

01 OXYD-OFF

Removes efficiently Oxide and Sulfide Layers from Contact Surfaces

OXYD-OFF cleans contacts and efficiently removes oxide and sulfide layers from any metallic contact surfaces. Special inhibitors ensure also long-lasting lubrication and corrosion protection. OXYD-OFF reduces contact resistance that leads to failures, eliminates voltage drops and guarantees a long lasting protection of all electro-mechanical contacts. OXYD-OFF is a well-proven product in radio and television engineering as well as in laboratory and in service, repair and maintenance. It is used on switches of all types, sliding contacts, potentiometers, contact banks, and relays. OXYD-OFF is used in measurement technique and control engineering, telecommunications, data processing, aerospace and military, particularly suitable for the electric- and electronic motorcar equipment, such as connectors, plugs and switches



OXYD-OFF

Colour	Reddish
Smell	Characteristic
Density	0,73 g/cm ³
Reduction of the contact resistance	< 2mΩ
Temperature resistance	Up to +80 C
Container size	400 ml
Quantity/box	12 spray cans 400 ml
Art. No. 400 ml	701.400.000

03 SPRAYWASH

Powerful Cleaner and Degreaser for Contacts and Electronic Equipment.

SPRAYWASH is a powerful mixture of solvents which reliably removes dirt and grease deposits as well as oxidized layers. The product's good penetration and flowing properties enable to wash away any soiling without difficulty. SPRAYWASH does not attack any material in common use and evaporates completely after a short time without leaving any residue. SPRAYWASH is ideal for intensive cleaning of contacts, components and equipment in electrical engineering, especially on switches, electric motors, relays, cabinets, etc. Also to be used to wash off oxide and sulfide layers from contact surfaces previously dissolved by OXYD - OFF.



SPRAYWASH

Colour	Colourless, Clear
Smell	Alcohol
Density	0,75 g/cm ³
Evaporation	Medium
Residue	None
Compatibility with plastic	Good
Container size	400 ml
Quantity/box	12 spray cans 400 ml
Art. No. 400 ml	703.400.000

05 FLUX-OFF

Removes effectively rosin flux and other soldering residues

FLUX-OFF is a mild, but effective cleaner that easily removes the toughest deposits of flux, soldering oils and other contaminants such as grease, dirt and molding compounds. FLUX-OFF is colorless and leaves no residue. It is used for gentle and intensive cleaning of printed circuit boards, electronic subassemblies and all other electronic components, suitable for degreasing of parts and equipment. It does not attack any material in common use. However, avoid using it on PVC and polystyrene.



Art.Nr. Brush-Adapter: 769.001.000



FLUX-OFF

Colour	Colourless, Clear
Smell	Mild
Density	0,84 g/cm ³
Evaporation	Residue-free
Material compatibility	Very good
Surface tension	22 mN/m
Container size	400 ml
Quantity/box	12 spray cans 400 ml
Art. No. 400 ml	705.400.000

Protective and Lubricating Agents

11 MULTI

Multifunctional oil loosens Rust, Lubricates, Stops Squeaks, Protects and Starts Wet Engines

MULTI is a multi-functional product for all kind of applications for electrical and mechanical equipment in industry and workshops. It forms a clear invisible film and is harmless to plastic, rubber and paint. MULTI displaces water, starts wet engines, eliminates short circuits, prevents corrosion and oxidation, dissolves rust and lubricates moving parts. Cleans and stops squeaks, and ensures long-lasting operational reliability.

Electrical/Mechanical equipment: Ignition systems, lighting systems, electronic equipment, carburetors, screws, locks, seat rails, pedals, etc.

Workshop/Industry: Electrical or mechanical precision instruments, tools, metal parts, relays and switches, electronic equipment, etc. Hobby, **House, Garden, DIY sector:** lawn movers, boat engines, bicycles, electric appliances, sliding doors, hinges, roller blades, etc.

MULTI is non-polluting and contains no hazardous substances.



MULTI

Colour	Yellowish, slightly turbid
Smell	Vanilla
Density	0,80 g/cm ³
Viscosity (Oil)	30 - 35m ² /s(40°C)
Corrosion protection	Up to 500h (salt-spray-test)
Lubricity	Up to 790kg (Falex)
Container size	400 ml
Menge/Karton	12 spray cans 400 ml

Art. No. 400 ml 711.400.000

10 SPRAYOIL

High-grade, acid-free Lubricant and Anticorrosion Agent

SPRAYOIL is a powerful, very thin, acid-free lubricant with excellent emergency running properties. Its lubricating film is very durable and does not become gummy. SPRAYOIL repels water and moisture and ensures durable and reliable corrosion protection. SPRAYOIL remains effective within a wide temperature range from -40°C to +170°C and meets the requirements of standard ISO VG 10. SPRAYOIL lubricates all moving parts in electrical engineering, precision engineering, maintenance and repair work and is a good corrosion protection of components, equipment, motors, generators, machines, etc., suitable for use on metals of all kinds.



SPRAYOIL

Colour	Yellowish
Smell	Typical mild
Density	0,78g/cm ³
Viscosity (Oil)	10 mm ² /s (40°C)
Pour point	-57°C (DIN ISO 3016)
Material compatibility	Good
Temperature range	-40° C up to + 170°C
Container size	400 ml
Quantity/box	12 spray cans 400 ml

Art. No. 400 ml 710.400.000

12 SILICONE

High quality and thin insulating silicone oil

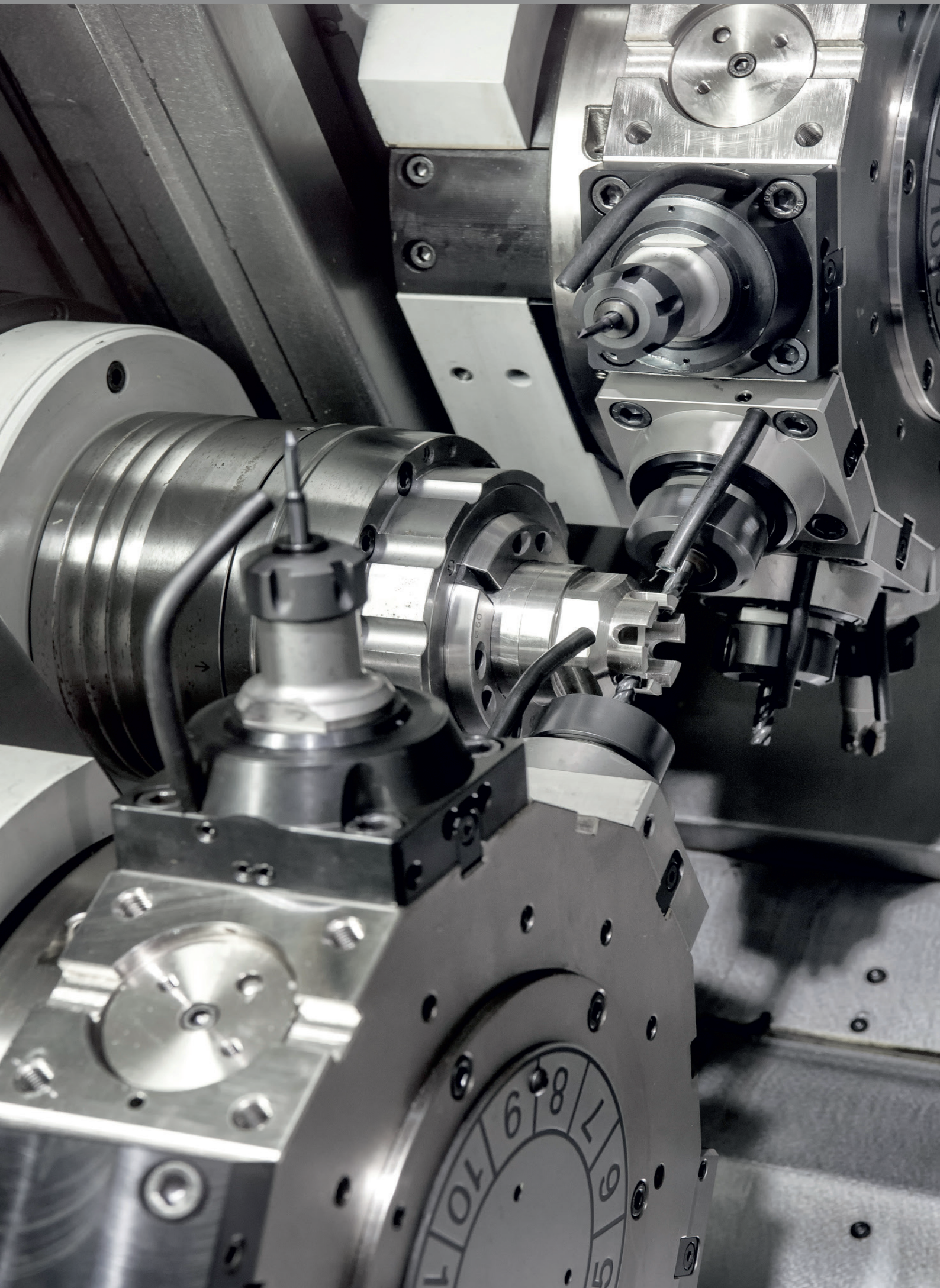
SILICONE contains a high-quality, thin insulating silicone oil with a breakdown voltage of 12 kV/mm. It forms an inert, clear film which does not dry up, is water-repellent and therefore is an excellent water and moisture buffer. SILICONE is also a good universal lubricant for plastics and rubber and is stable within a wide temperature range from -50° C up to +200° C. Furthermore, it is non-toxic, non-staining and does not attack any engineering material. To avoid spark discharge in high voltage transformers, on tube bases, etc. SILICONE eliminates reliably the creepage currents and corona effects, prevents shortcuts and insulates. It prevents sticking and is an excellent separating, mould release and wire pulling agent. The thin invisible film lubricates plastic bearings, drives, gear and rubber.



SILICONE

Appearance	Clear, colorless liquid
Odor	Typical mild
Density aerosol at 25°C	0,97g/cm ³
Viscosity film at 25°C	1000 mm ² /s
Thermal conductivity	0,16 W/m K
Dielectric strength at 20°C	12 kV/mm
Dielectric constant at 25°C	2,8 (0,5 to 100 kHz)
Compatibility with materials	Very good
Temperature resistance	-50°C up to +200°C
Container size	400 ml
Quantity/box	12 spray cans 400 ml

Art. Nr. 400 ml 712.400.000



70 PLASTIC

Transparent Protective Conformal Coating for PC Boards and Electronic Components

PLASTIC is based on an acrylic resin particularly suitable for the electronic industry. It forms a shiny, flexible and protective film that is resistant to acids, salt, fungus, corrosive vapors, thermal stress, mechanical abuse, alkalis, alcohols, moisture, and tough environmental conditions. It retains its effectiveness within a wide range of temperatures from -70°C to $+120^{\circ}\text{C}$. The lacquer adheres to various materials such as metal, plastics, wood, cardboard, glass etc. PLASTIC does not drip and permits soldering through its own layer. PLASTIC contains an UV indicator for quality control. PLASTIC meets MIL-I-46058C. „Type Acrylic Resin“. PLASTIC protects printed circuit boards, components, wire cables, etc. Elimination or prevention of creepage current, corona effects, short-circuits or discharges. PLASTIC seals out water, dirt and moisture and is an ideal corrosion protection of parts subjected to bad atmospheric conditions. It is water proofing of various materials such as cardboard, wood, leather, etc.



PLASTIC

Colour	Transparent
Smell	Of solvent
Density	0,88 g/cm ³
Surface resistance	$5 \times 10^{14} \Omega$
Contact resistance	$10^{14} \Omega/\text{cm}$
Dielectric strength	21 kV/mm
Leakage current resistance (CTI)	> 600 Volt
Temperature resistance (Class E acc. to VDE 0360)	-70°C up to $+120^{\circ}\text{C}$
Container size	400 ml
Quantity/box	12 spray cans 400 ml
Art.-No. 400 ml	770.400.000
Art.-No. 1 liter	770.L01.000
Art.-No. 5 liter	770.L05.000
Art.-No. 20 liter	770.L20.000

71 URETHANE-CLEAR

Highly Resistant, Protective and Insulating Conformal Coating

URETHANE is a high-quality single component polyurethane lacquer, particularly suitable for the electronic industry. URETHANE protects and insulates PC boards, electrical motors, transformers, electronic equipment and components. It offers protection from damaging environmental conditions such as humidity, salty corrosive vapours, fungus, thermal and mechanical stress. URETHANE forms a hard, stable, flexible, non conductive and wear-resistant film with excellent adherence, mainly used as a protection and sealing of printed circuits boards. It is used as a resistant, protective conformal coating for electric motors, transformers and other equipment and components. Particularly suitable for preventing damage caused by moisture, corrosion and chemical agents.



URETHANE-CLEAR

Colour	Slightly yellowish
Density	0,80 g/cm ³
Surface resistance	2,5 x 10 ¹² Ω
Contact resistance	5,1 x 10 ¹⁴ Ω
Dielectric strength	82,9 kV/mm
Temperature range	-40°C bis +130°C Cl. B according to VDE 0360
Container size	400 ml
Quantity/box	12 spray cans 400 ml
Art.-No. 400 ml	771.400.000
Art.-No. 1 liter	771.L01.000
Art.-No. 5 liter	771.L05.000
Art.-No. 20 liter	771.L20.000

63 ZINC - BRIGHT

Cold galvanizing spray for corrosion and rust protection

ZINC is a cold galvanizing zinc-rich coating for corrosion and rust protection. It forms a tough and flexible film which actually bonds with any base metal. The film contains 99,5% pure zinc pigments and bonds electrochemically to bare metal. The coating provides active galvanic protection and stops rust formation even when scratched or abraded. The coating is fast drying, shows excellent adherence and forms a grey layer. ZINC meets DIN 50976 and Mil. Specs. Particularly suitable for corrosion protection of structural steel, steel buildings, steel roofs, windows and doors, touch up over galvanized coatings, welding seams and spot welding, home and garden equipment, air conditioners, cooling towers and agricultural equipment.



ZINC

Colour	Grey
Specific gravity (20°C)	0,95 g/cm ³
Drying conditions at	30 min. dry to touch
Room temperature	24h totally cured
Temperature resistance	Up to +200°C
Temperature resistance short-term	Up to +300°C
Ideal film thickness	60-80 µm
Container size	400 ml
Purity of zinc pigment	99,5%
Quantity/box	12 spray cans 400 ml
Art.-No. 400 ml	763.400.000

Sprayduster

22 DUSTER-NF

Pure and Powerful
Dust - Remover
- non-flammable -

DUSTER-NF is an absolutely clean, non-flammable sprayduster. Developed for applications where extremely pure cleaning is required, and where liquid solvents are inappropriate. The powerful jet action instantly removes particles from the most inaccessible areas. DUSTER-NF leaves no residue and is harmless to materials of all kind. DUSTER-NF easy, quickly and safely removes dust, lint, and oxide particles from all kinds of equipment. Designed and recommended for powerful nonabrasive cleaning of sensitive electronic equipment and components, data processing equipment, personal computers, optical instruments, photographic materials, microscopy and laboratory equipment



DUSTER-NF

Smell	Odourless
Density	1,20 g/cm ³
Pressure	5,3 bar (+25°C)
Flashpoint	Non-flammable
Evaporation	Complete
Container size	400 ml
Quantity/box	12 spray cans 400 ml

Art. No. 400 ml 723.400.000

42 BOOSTER

High pressure,
non-flammable spray-
duster, removes heavy
dusty contaminants

Booster is an extremely strong, non-flammable sprayduster for professional cleaning. Booster removes dusty contaminants at hard to reach areas. The special technology enables the liquefied gas to evaporate immediately and builds up an extremely powerful pressure. The valve technology provides a pressure which is four times as powerful as normal dusters and therefore enables to remove heavy and large particle which cannot be removed by normal dusters. Booster is non-flammable and may be used for maintenance and repair on energized equipment. Due to its purity > 99,9 % and the ultrafiltration to < 0,2 microns Booster leaves no residue and is safe on all common used materials. Booster easily, quickly and safely removes dust, lint and loose particles from all kinds of equipment. Booster guarantees a powerful non-abrasive cleaning of sensitive electronic equipment and components, keyboards, PCB's, computers, photographic and video equipment, optical instruments, microscopy and laboratory equipment. The ideal tool for maintenance and repair at hard to reach areas. To avoid 80% of the functional problems of computers and equipment which are mainly caused by dust.



BOOSTER

Smell	Odourless
Density	1,20 g/cm ³
Pressure	7 bar (+25°C)
Flashpoint	Non-flammable
Evaporation	Complete
Container size	300 ml
Quantity/box	12 Spraydosen 300 ml

Art.-No. 300 ml 743.300.000

32 DUSTER-FL

Pure and Powerful
Dust-Remover
- flammable -

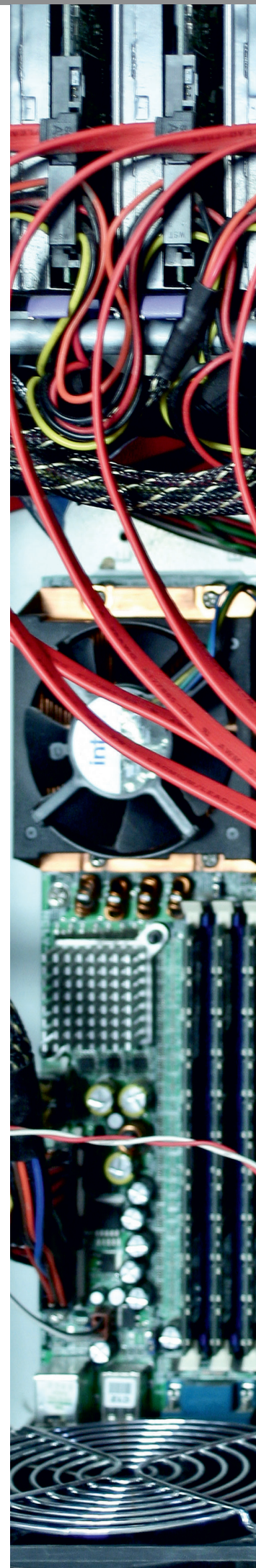
DUSTER-FL is microscopically clean, moisture-free and developed for applications where extremely pure cleaning is required and where liquid solvents are inappropriate. The powerful jet action instantly removes particles from the most inaccessible areas. DUSTER-FL leaves no residue and is harmless to materials of all kind. DUSTER-FL quickly and safely removes dust, lint, and oxide particles from all kinds of equipment. Designed and recommended for powerful non-abrasive cleaning of sensitive electronic equipment and components, data processing equipment, personal computers, optical instruments, photographic materials, microscopy and laboratory equipment.



DUSTER-FL

Smell	Odourless
Dichte	0,55 g/cm ³
Pressure	4,8 bar (+20°C)
Flashpoint	Flammable
Evaporation	Complete
Container size	400 ml
Quantity/box	12 spray cans 400 ml

Art. No. 400 ml 732.400.000



Special Sprays

60 SCREEN

Foam Cleaner with Antistatic Action

SCREEN contains special dissolving substances to remove dirt and greasy films from glass, plastics, ceramics and metals. The additional antistatic effect noticeably prevents new soiling. SCREEN cleans gently and is safe to use. It will not smear, stain, scratch, streak or abrade. SCREEN removes dust, grease, dirt, finger prints and nicotine deposits efficiently from computer terminals, suitable for LCD- and TFT- Screens, office and photographic processing equipment, graphic art tables, TV picture screens, mirrors and glass of all kind. It improves optical clarity and distortion-free reading. Its antistatic agent prevents renewed soiling.



SCREEN

Colour	White foam
Foam stability	Very good
Material compatibility	Unlimited good on Glass, metal, hardened lacquers, plastics such as acrylic glass, Polycarbonate, ABS, PVC, Polyamide
Container size	400 ml
Quantity/box	12 spray cans 400 ml
Art. No. 400 ml	760.400.000

61 LABEL-OFF

Removes adhesive paper labels quick and easily

LABEL-OFF removes adhesive paper labels from all kinds of material very easy and quick, without damaging the surface. The dissolving substance penetrates the paper and eliminates the label's adhesive strength. Residues of glue can be wiped off by using a cloth or paper. LABEL-OFF has proven useful in the home, gift shops, as well as in the handicraft trade and in the office. Due to the strong dissolving power of LABEL-OFF, a few materials such as expanded polystyrene may be attacked by the ingredient. In case of doubt, test on a small area.



LABEL-OFF

Colour	Colourless, Clear
Smell	Orange flavour
Density	0,72 g/cm ³
Evaporation speed	Medium
Material compatibility	Good (except for polystyrene, polyamide)
Container size	400 ml
Quantity/box	12 spray cans 400 ml
Art. No. 400 ml	761.400.000

62 FREEZER

Cooling spray to locate heat induced failures down to -50°C

FREEZER-FL ensures reliable cooling down to -50°C. It quickly locates thermal intermittent components due to heat induced failure. The product is chemically very pure, does not damage any engineering material in common use and evaporates immediately without any residue. Low temperature testing of electronic systems and heat-sensitive components such as IC's, transistors, diodes, resistors, capacitors and other defective components, etc. Also suitable for heat sink protection of electronic components during soldering or desoldering. Low temperature testing of electro mechanical systems and electronic circuits. Location of hairline cracks in printed circuit boards.



FREEZER

Description	Tin-plate aerosol can with spray nozzle and extension tube
Density at 25°C	0,55 g/cm ³
Odour	Odourless
Temperature obtained	Min. -50°C
Flashpoint	< 0°C
Pressure	4,8 bar (+20)
Material compatibility	Very good
Container size	400 ml
Quantity/box	12 spray cans 400 ml
Art. No. 400 ml	762.400.000

Cleaning systems

91 ELIX®

Hand Cleaning Towel

Mobile and very effective Hand- and Tool-Cleaning System. Without water, it removes quickly, thoroughly and gently stubborn dirt, oil, wax, grime, ink, sealants, polyurethane (PU), adhesives, paint, tar, grease, etc. After cleaning the hands, the wipes still have enough cleaning power to effectively clean tools and other equipment. Use the rough side for strong and heavy dirt. Use the soft side for gentle hand-cleaning. Gentle and effective cleaning. Pleasant and fresh orange fragrance.



BEFORE

AFTER

ELIX	6 buckets
Description	Impregnated towels
Colour	Blue
Towel size	27 x 31 cm
Smell	Orange
Container size	90 towels/bucket
Quantity/box	6 buckets
Art.-No.	491.090.000
6 buckets	



ELIX® CLEAN CLEANING CARDS FOR CASH AND CREDIT CARD AUTOMATED SYSTEMS

- Automatic teller machines (ATMs)
- Cash depositing
- Retail (EFT terminals)
- Bank note acceptors (BNAs)
- Car park ticket machines
- Petrol station (OPT) outside payment terminals
- Ticket vending machines
- Gaming machines



EXPERIENCE IS THE KEY TO SUCCESS

Since 1982 ECS stands for quality in the development and manufacture of products for the production, maintenance and assembly of electrical systems and devices. Much has changed in the field of electronics over the years, but the products of ECS are still first choice with service technicians, production managers and in customer service. This is because price and quality are right. The most important thing is ECS's motto: Solution at the push of a button.



CERTIFICATION BREEDS CONFIDENCE

Quality at ECS is more than just a marketing slogan. All our company processes are certified by the German Industrial Standards Institute (DIN). This gives users the guarantee that our products meet high standards and are safe to use. This is guaranteed.



ECS: SOLUTIONS FROM RESEARCH TO PRODUCTION

Every electrical engineering technician is familiar with the classic ECS spray can containing 200 or 400ml. ECS products are also being used increasingly in production. ECS also delivers bulk containers especially for this purpose. These are also useful for economically minded people in the areas of maintenance, repair and service.



ENVIRONMENTAL PROTECTION — A PART OF OUR PHILOSOPHY

Chemical substances must be handled responsibly. ECS ensures that the raw materials are largely environmentally-friendly. An active ingredient which has little or no harmful effect is used wherever possible. ECS develops and researches for the preservation and protection of our natural environment.



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