Contact Treatments Range No 2

TECHNICAL DATA SHEET

Product Code: Grease (SGA), Oil (SOA), Fluid (SFA)

PRODUCT DESCRIPTION

The Electrolube 2 Range of contact lubricants was developed in response to a requirement for an effective treatment for all types of contacts, particularly in situations where extremes of temperature and environmental conditions are encountered. The range encompasses grease, oil, solvent-diluted oil and products developed to special customer requirements. Correct application of the right grade will reduce contact resistance and arcing of contacts of all ratings from small relays to high capacity contactors.

Electrolube have additional Contact Grease products with different properties for specific applications. These include improved plastics compatibility, wider temperature range etc. Please ask for further details.

PRODUCT USE

The 2 Range can be used on all types of electrical contacts, but care should be taken to ensure that certain paints, rubbers, and thermoplastics are not near the area of the contact. There is a separate data sheet listing plastics compatibility which should be consulted. If there is any doubt, tests should be carried out first.

From the range, No 2 Oil should be used on contacts that have very low or high contact forces and in applications where it will not migrate. Typical areas of use are small contacts, brushes, commutators, bearings, organ key contacts, jack plugs, push button switches, relays and uni-selectors.

2G is a non-melting grease which will not migrate from vertical contacts or surfaces and will provide greater protection from atmospheric conditions than an oil. The grease version is therefore more suitable for highly corrosive industrial type environments and in heavy arcing conditions e.g. large connections, battery terminals, contactors, busbars, knife switches, rheostats, large voltage regulators etc.

Solvent diluted oils permeate, free and lubricate and should be used for situations where only a very thin film of oil is required, and, once the

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solvent has evaporated, it leaves a non-drying film of oil. These products are also used for cleaning and removing hardened oil, grease and dirt deposits from contact surfaces, dirty or seized motor bearings, clocks and other assemblies.

Either oils or greases may be used on fixed or moving contacts, edge connectors, turret tuners, plug, sockets, switching devices, potentiometers, fuses, small regulators, slip rings, slider/rotary controls, rocker/push-pull edge connectors, valve pins, switchgear and butting contacts.

FEATURES

* Effective at low temperature (-50°C).
* Low evaporative loss (0.4% after 72 hours at 100°C).
* Contains no hydrocarbons or silicones - thereby eliminating problems caused by carbon deposits and silicone compounds.
* Excellent lubrication properties (spiral shaped molecules with effective length of 20 Angstrom units).
* Will loosen tarnish and corrosion and leave a protective film to prevent further contamination.
* High stable synthetic material, fully inhibited against copper corrosion, oxidation, etc. which is an excellent contact coolant.
* Improves contact performance by increasing the effective contact area and preventing arcing.

TYPICAL PROPERTIES

	2 Oil	2 Grease
Specific Gravity @ 20°C:	0.976	1.007
Thermal Conductivity (cgs units):	N/A	5×10^{-4}
Viscosity (100°C) cSt:	10.1-10.6	N/A
Viscosity Index Extension: (ASTM D2270:IP 226)	190	N/A
Flash Point:	242°C	242°C
Pour Point:	-46°C	N/A
Neutralisation Value (MgKOH/g):	0.1	0.2
Copper Strip Corrosion Test: (IP 112/56 Method) @ 150°C	1	1
Water Percent:	0.1	0.4

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Surface Tension (20°C): (dynes/cm)	34.7	N/A
Consistency:	Oil of light brown colour	Non-Melting grease of light brown colour
Drop Point:	N/A	267°C
Ash Percent:	Nil	N/A
Penetration worked 60 strokes: @ 20°C IP50	N/A	295 to 350
Refraction Index (N/D 20):	1.46	N/A
Evaporation Weight Loss % @ 100°C: 72 hours (IP 183-63 method)	0.4	N/A
Breakdown voltage @ room temp.: (kV r.m.s.) test in accordance with BS.148 1972	37.5	N/A
Dielectric Constant @ 1MHz:	5.0	4.0
Loss Tangent (tan delta 1MHz):	0.002	0.030

DIRECTIONS FOR USE

1. **Cleaning**

Before final treatment with Electrolube lubricants, contact surfaces should be clean and dry. For general removal of dirt, Electrolube 100% Ozone Friendly Ultrasolve (available in aerosol and bulk packaging) is recommended, either with direct spray or on a clean cloth, followed by application of lubricant.

Hardened dirt and tarnish, especially on larger contacts, should be removed by rubbing with a suitable material such as canvas, leather, cloth, hard wood, or abrasive, etc., which can be im-pregnated with the lubricant to be used.

Electrolube Fluid No 1 (50% solvent/50% oil) is particularly effective in penetration, and in assisting the removal of deposits. Application, followed by friction as above is recommended, to remove loosened tarnish.

Fluid No 1 is also effective in providing combined cleaning and lubrication when contacts are less heavily contaminated. After the solvent has evaporated a thin film of Electrolube No 2 Oil

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remains. In the case of arcing contacts, it is important to ensure all solvent has evaporated before passing current.

2. **Lubrication**

After cleaning non-wiping contacts as above, loosened tarnish should be removed before a final application of lubricant is made. With wiping contacts, loosened tarnish will be pushed aside. This can be removed if desired, but is usually not necessary, due to the excellent lubricating and protective properties of Electrolube contact lubricants.

For small non-wiping contacts, a thin film of lubricant should be applied with friction. Electrolube Contact Cleaning Strips (CCS) are recommended for this purpose.

In production processes, Electrolube contact lubricant should be applied to the contact components as soon as possible after manufacture or plating to protect against handling contamination and tarnishing.

PACKAGING	**ORDER CODE**
2 Grease (SGA)	
10 ml Syringe	SGA10S
20 ml Syringe	SGA20S
35 ml Syringe	SGA35SL
1 Kg Bulk	SGA01K
5 Kg Bulk	SGA05K
12.5 Kg Bulk	SGA12.5K
25 Kg Bulk	SGA25K
2 Oil (SOA)	
55 ml Bottle	SOA55B
1 Kg Bulk	SOA01K
5 Kg Bulk	SOA05K
25 Kg Bulk	SOA25K

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Specialised Contact Fluid (SFA)

55 ml Bottle SFA55B

The 12.5 and 25 kg grease drums have parallel sides for use with "follower plate" dispensing equipment for automated manufacturing lines. The drum dimensions are:

12.5 kg 254mm (inside diameter) x 330mm (height)
25 kg 305mm (inside diameter) x 406mm (height)

NATO Stock No (SFA55B): 6850-99-914-3344
NATO Stock No (SGA01K): 6850-99-220-1588
NATO Stock No (SOA55B): 6850-99-220-1930 (RAF) 6850-99-096-3372 (Army)

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