



# Liqui-Tech Basic

## HIGH-TECH CORROSION AND MOISTURE PROTECTION

**Moisture protection for all electrical, electronic and mechanical systems and system components**

### PRODUCT DESCRIPTION

Protects all electrical and metal components of systems from water, moisture and wetness.

### AREAS OF APPLICATION

- + Industrial systems
- + Service / assembly / maintenance
- + Protection of goods for export
- + Industrial manufacturing
- + Cars / motorbikes / caravans / boats / recreation

### INSTRUCTIONS FOR USAGE

Shake the can vigorously before using, do not spray into a naked flame or onto hot objects. (Please read the notes on the aerosol can.) Simply spray on the moisture protection and wait three to five minutes. Once the propellant has dispersed, the powerful water-repellent effect begins to develop.

### TECHNICAL DATA

Hydrocarbon compounds, solvents, various types of wax dispersions for repelling water and moisture, corrosion protection additive, lubricating additive, contains no silicone oil.

<b>Colour</b>	brownish
<b>Smell</b>	similar to solvents
<b>Density</b>	0.62 g/cm <sup>3</sup> at 20°C
<b>Dielectric strength</b>	163 kV/cm
<b>Surface resistance</b>	28.46 terra ohms

### STORAGE

Store in a cool dry place, do not expose to direct sunlight.

### CONTAINER SIZES

- + 200 ml aluminium cans
- + 400 ml steel cans
- + 5 l, 30 l and 200 l in bulk

### ENVIRONMENT

Highly-flammable aerosol: do not inhale! Avoid contact with the skin. Use only in well-ventilated areas. The product and its contents must be disposed of as hazardous waste. The container is pressurised. Do not expose to direct sunlight or temperatures above 50°C. Do not open the aerosol can or throw it into a fire, even when empty. Do not spray into a flame or onto hot surfaces. Keep the can away from ignition sources - do not smoke! If the product is used in areas without sufficient ventilation, explosive gases may form. Wash your hands after using the product. Please also read the label on the can.



## SALT SPRAY-CHAMBER TEST AS PER DIN 50021 - SS

The test was carried out by a major supplier of chemicals.

### Basis of the procedure

In spray tests complying with this standard, an aqueous sodium chloride solution with a concentration of 5g/100 ml as the corrosive agent is sprayed continuously. Spraying is carried out by means of compressed air. Test temperature: 35°C

After 186 hours the metal parts were removed from the chamber, where they were found to have barely visible onsets of corrosion.

### COMPARATIVE VALUES

<b>WD40</b>	approx. 28 hours
<b>Caramba</b>	approx. 29 hours
<b>Brunox</b>	approx: 31 hours

## TEST OF ELECTRICAL VALUES

Most of the required tests of electrical characteristics are not standardised. We are not aware of any accepted test specifications for the precise test relevant to the application. For this reason, a test set-up for electrical values was constructed in our own electronics workshop.

### DIELECTRIC STRENGTH

The measurements were made in a largely airtight measuring container filled with the agent, using variously-shaped steel and brass measuring electrodes immersed in the agent at distances of between 0.2 mm and 1 mm. After exhaustive experimentation, the best reproducible results (i.e. those with the smallest error cloud) were achieved with cylindrical steel electrodes. The diameter of the electrodes was 3 mm, the distance between them 0.5 mm, and they were immersed to a depth of 10 mm; measurements were taken at room temperature.

### MEASURING EQUIPMENT USED

+ FUG HCN-12500 high-voltage measuring device with a measurement inaccuracy of +/- 5 KV / cm.

In summary, it was ascertained that the dielectric strength of fresh Liqui-Tech was ~ 160 kV cm<sup>-1</sup> and thus of a sufficiently high value. More precise measurements would require a far more complex measurement set-up. Once the carrier fluid has evaporated, the dielectric strength increases to a maximum of 210 kV.

### SPECIFIC RESISTANCE

The specific resistance (resistivity) was ascertained by measuring the resistance between two immersed brass measuring plates. The distance between the two plates was 2.5 cm, their area was 50 x 20 mm. These plates were used in the condition in which they were supplied, with no special prior treatment.

### MEASURING EQUIPMENT USED

- + Siemens 7 KA 1100 terra-ohmmeter, measuring voltage 100 V, measurement inaccuracy + / - 5%
- + Test set-up assembled by our own electronics workshop
- + Measurements were taken at room temperature.

The specific resistance was calculated using the measured resistance values, the wetted area and the distance.

### SPECIFIC RESISTANCE VALUES

Time elapsed after filling with agent	Liqui-Tech Specific resistance in terra ohms	WD40 Specific resistance in terra ohms	Remark
0 hours	65	3.0	Product fresh
50 hours	100	2.9	Product aged
100 hours	140	2.8	Product aged
140 hours	150	2.6	Product aged
200 hours	165	2.5	Product aged
500 hours	208	2.3	Product aged

In summary, it was ascertained that after 100 hours, specific resistance increased from  $\sim 65 \text{ T}\Omega \text{ mm}^2 \text{ m}^{-1}$  to  $\sim 165 \text{ T}\Omega \text{ mm}^2 \text{ m}^{-1}$ . The reason is the familiar evaporation of a solvent from the oil.

However, the rival product WD-40 displayed diametrically opposite behaviour in terms of resistance. For one, its specific resistance of  $\sim 3 \text{ T}\Omega \text{ mm}^2 \text{ m}^{-1}$  is considerably lower than Liqui-Tech's  $\sim 65 \text{ T}\Omega \text{ mm}^2 \text{ m}^{-1}$ , and for another, after  $\sim 200$  hours its specific resistance decreases from  $\sim 3 \text{ T}\Omega \text{ mm}^2 \text{ m}^{-1}$  to  $\sim 2.5 \text{ T}\Omega \text{ mm}^2 \text{ m}^{-1}$ .

After approximately 500 hours, the measured value corresponds roughly to the value achieved by spraying from the aerosol can (208 terra ohms).

### COMPOSITION

- + Neutral, synthetic triarylphosphate
- + Demulsifying additive for protection against corrosion
- + Phenolic antioxidant
- + Aliphatic hydrocarbons
- + Butyldiglycol < 1%
- + Highly-refined mineral oil



**Werner Wirth GmbH**  
Seegelkenkehre 1  
21107 Hamburg  
Germany

Tel +49 (0)40 878 86 89-0  
Fax +49 (0)40 878 86 89-26

info@wernerwirth.de  
www.wernerwirth.de

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