

GREEN COAT™ (RECUBRIMIENTO PARA PCB)



Green Coat™

Es un Nuevo spray para recubrir todos los Circuitos Impresos con soldado manual

- Paso 1: Prepare su Circuito como habitualmente y elimine el resistente al grabado completamente.
- Paso 2: Si usted quiere, usted puede añadir estaño por inmersión en la superficie del cobre (no obligatorio).
- Paso 3: Pulverice sobre el circuito recubriendo con una fina capa de Green Coat™.
- Paso 4: Espere unos 5 minutos para limpiar en seco la superficie.
- Paso 5: Suelde manualmente a través del recubrimiento verde. Usted verá que la soldadura es realmente fácil.
Green Coat™ contiene FLUX (componente que facilita la soldadura) y mejora la soldabilidad!
- Paso 6: Realice un curado (fortalecimiento) del recubrimiento verde a 80°C durante 1 hora o 2 días a temperatura ambiente.
- Ahora el recubrimiento protegerá su Circuito Impreso.

Green Coat™ está disponible en spray de 150 ml
Consultar precio en info@ce-granollers.com o Teléfono 93.849.54.02

GREEN COAT™ (RECUBRIMIENTO PARA PCB)

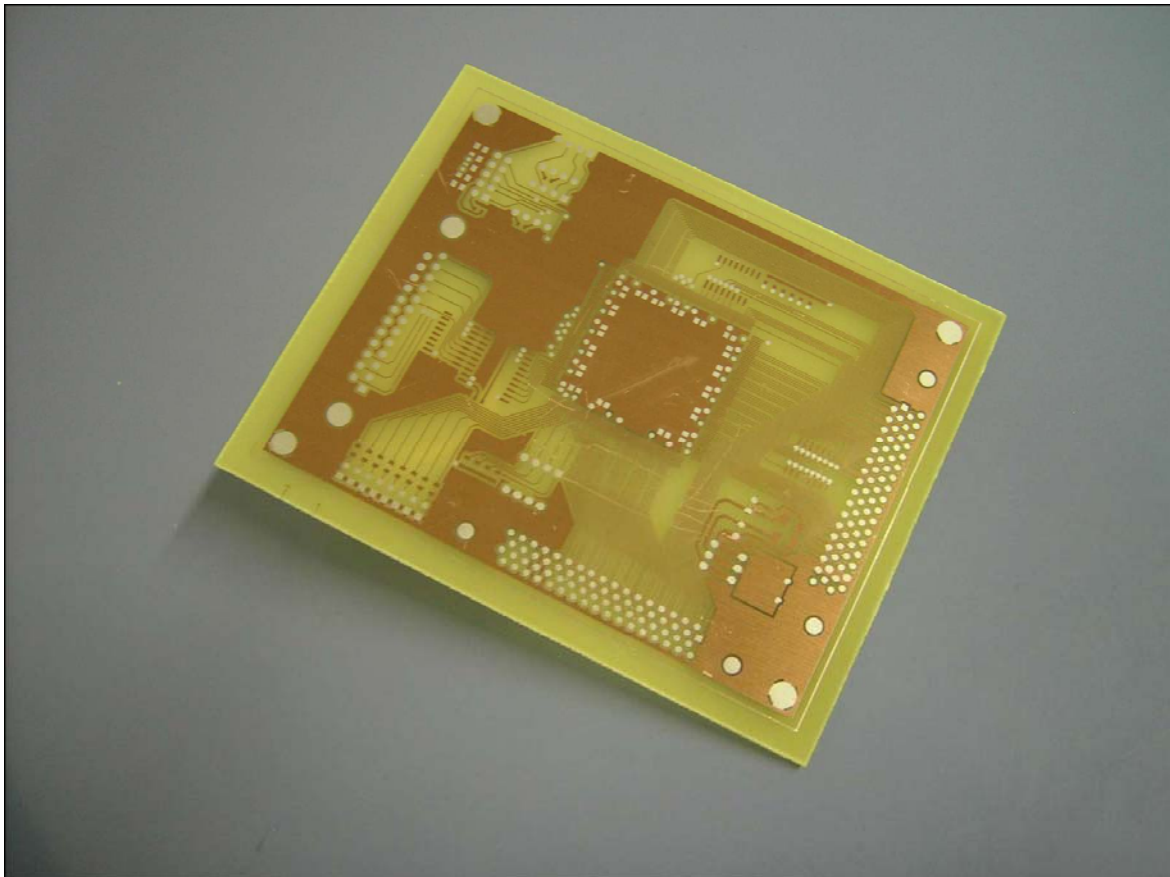
Alternativamente usted puede utilizar placas positivas presensibilizadas ORIGINAL BUNGARD.

Paso 1: Revelar el fotosensibilizado después de atacar una vez más con film negativo con los PADS abiertos.

Paso 2: Aplicar nuestro estañado por inmersión SUR-TIN justamente en los PADS abiertos.

El fotosensibilizado permanecerá en las pistas y las protegerá.

Esto también nos facilitará una buena soldabilidad en los PAD's y tendrá un buen aspecto sin crear costes extras.



Safety Data Sheet

according to 1907/2006/EC, Article 31

Printing date 30.08.2007

Revision: 30.08.2007

1 Identification of the substance/preparation and of the company/undertaking

- **Product details**
- **Trade name:** Green Coat
- **Article number:** 74150
- **Application of the substance / the preparation** Preparation
- **Manufacturer/Supplier:**
Bungard Elektronik GmbH & Co KG
Rilkestr.1
D-51570 Windeck Germany
- **Tel:** +49 (0)2292 5036
Fax: +49 (0)2292 6175
e-mail info@bungard.de
- **Further information obtainable from:** QHSE Department
- **Information in case of emergency:** Tel: +49 (0)2292 5036 (08.00 / 15.30)

2 Hazards identification

- **Hazard description:**



Xi Irritant
F+ Extremely flammable

- **Information concerning particular hazards for human and environment:**

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

At long or repeated contact with skin it may cause dermatitis due to the degreasing effect of the solvent.

Warning! Pressurized container.

Has a narcotizing effect.

R 12 Extremely flammable.

R 36 Irritating to eyes.

R 43 May cause sensitisation by skin contact.

R 52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R 66 Repeated exposure may cause skin dryness or cracking.

R 67 Vapours may cause drowsiness and dizziness.

Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use.

Do not spray on a naked flame or any incandescent material. Keep away from sources of ignition - No smoking.

Buildup of explosive mixtures possible without sufficient ventilation.

Keep out of the reach of children

- **Classification system:**

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

3 Composition/information on ingredients

- **Chemical characterization**
- **Description:** Mixture of substances listed below with nonhazardous additions.

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· Dangerous components:		
CAS: 67-64-1 EINECS: 200-662-2	acetone Xi, F; R 11-36-66-67	25-50%
CAS: 74-98-6 EINECS: 200-827-9	propane F+; R 12	12.5-20%
CAS: 106-97-8 EINECS: 203-448-7	butane F+; R 12	10-12.5%
CAS: 75-28-5 EINECS: 200-857-2	isobutane F+; R 12	5-10%
CAS: 64742-49-0 EINECS: 265-151-9	Naphtha (petroleum), hydrotreated light Xn, Xi, F, N; R 11-38-51/53-65-67	5-10%
CAS: 8050-09-7 EINECS: 232-475-7	Rosin Xi; R 43	5-10%
CAS: 108-65-6 EINECS: 203-603-9	2-methoxy-1-methylethyl acetate Xi; R 10-36	2.5-5%
CAS: 78-93-3 EINECS: 201-159-0	butanone Xi, F; R 11-36/37-66-67	2.5-5%
CAS: 71-36-3 EINECS: 200-751-6	butan-1-ol Xn, Xi; R 10-22-37/38-41-67	1-2.5%

· **Additional information:** For the wording of the listed risk phrases refer to section 16.

4 First-aid measures

· **After inhalation:**

Supply fresh air and to be sure call for a doctor.

In case of unconsciousness place patient stably in side position for transportation.

· **After skin contact:** Immediately wash with water and soap and rinse thoroughly.

· **After eye contact:**

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

· **After swallowing:** Drink plenty of water and provide fresh air. Call for a doctor immediately.

5 Fire-fighting measures

· **Suitable extinguishing agents:**

CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

· **For safety reasons unsuitable extinguishing agents:** Water with full jet

· **Protective equipment:** No special measures required.

6 Accidental release measures

· **Person-related safety precautions:** Ensure adequate ventilation

· **Measures for environmental protection:**

Do not allow product to reach sewage system or any water course.

Inform respective authorities in case of seepage into water course or sewage system.

Do not allow to enter sewers/ surface or ground water.

· **Measures for cleaning/collecting:** Ensure adequate ventilation.

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7 Handling and storage

- **Handling:**
- **Information for safe handling:**
No special measures required.
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
- **Information about fire - and explosion protection:**
Do not spray onto a naked flame or any incandescent material.
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C, i.e. electric lights. Do not pierce or burn, even after use.
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**
Store in a cool location.
Observe official regulations on storing packagings with pressurized containers.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**
Keep container tightly sealed.
Do not seal receptacle gas tight.
Store in cool, dry conditions in well sealed receptacles.
Protect from heat and direct sunlight.

8 Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.

- **Ingredients with limit values that require monitoring at the workplace:**

67-64-1 acetone	
WEL ()	Short-term value: 3620 mg/m ³ , 1500 ppm Long-term value: 1210 mg/m ³ , 500 ppm
106-97-8 butane	
WEL ()	Short-term value: 1810 mg/m ³ , 750 ppm Long-term value: 1450 mg/m ³ , 600 ppm Carc (if more than 0.1% of buta-1.3-diene)
8050-09-7 Rosin	
WEL ()	Short-term value: 0.15 mg/m ³ Long-term value: 0.05 mg/m ³ Sen
108-65-6 2-methoxy-1-methylethyl acetate	
WEL ()	Short-term value: 548 mg/m ³ , 100 ppm Long-term value: 274 mg/m ³ , 50 ppm Sk
78-93-3 butanone	
WEL ()	Short-term value: 899 mg/m ³ , 300 ppm Long-term value: 600 mg/m ³ , 200 ppm Sk
71-36-3 butan-1-ol	
WEL ()	Short-term value: 154 mg/m ³ , 50 ppm Sk

- **Additional information:** The lists valid during the making were used as basis.

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· **Personal protective equipment:**

· **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.
Do not inhale gases / fumes / aerosols.
Avoid contact with the eyes.

Avoid contact with the eyes and skin.

· **Respiratory protection:** Not required.

· **Protection of hands:**

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation



Protective gloves

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:**



Tightly sealed goggles

9 Physical and chemical properties

· **General Information**

Form:	Aerosol
Colour:	According to product specification
Odour:	Characteristic

· **Change in condition**

Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	Not applicable, as aerosol.

Flash point:	< 0°C (< 32°F) Not applicable, as aerosol.
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Ignition temperature:	365.0°C (689°F)
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Self-igniting:	Product is not selfigniting.
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Danger of explosion:	Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
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Explosion limits:	
Lower:	1.5 Vol %

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Upper:	13.0 Vol %
· Vapour pressure at 20°C (68°F):	3500.0 hPa (2625 mm Hg)
· Density at 20°C (68°F):	0.70600 g/cm ³
· Solubility in / Miscibility with water:	Not miscible or difficult to mix.
· Solvent content:	
Organic solvents:	88.7 %
· Solids content:	11.1 %

10 Stability and reactivity

- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Dangerous reactions** No dangerous reactions known.
- **Dangerous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- **Acute toxicity:**

· LD/LC50 values relevant for classification:		
67-64-1 acetone		
Oral	LD50	5800 mg/kg (rat)
Dermal	LD50	20000 mg/kg (rabbit)
	LC50 / 4 h	39 mg/m ³ (rat)
106-97-8 butane		
	LC50 / 4 h	658 mg/m ³ (rat)
64742-49-0 Naphtha (petroleum), hydrotreated light		
Oral	LD50	>5000 mg/kg (rat)
Dermal	LD50	>2600 mg/kg (rabbit)
	LC50 / 4 h	>193 mg/m ³ (rat)
108-65-6 2-methoxy-1-methylethyl acetate		
Oral	LD50	8532 mg/kg (rat)
Dermal	LD50	>5000 mg/kg (rabbit)
	LC50 / 4 h	35.7 mg/m ³ (rat)
78-93-3 butanone		
Oral	LD50	2737 mg/kg (rat)
Dermal	LD50	6480 mg/kg (rabbit)
	LC50 / 4 h	34 mg/m ³ (rat)
71-36-3 butan-1-ol		
Oral	LD50	4400 mg/kg (rat)
Dermal	LD50	4200 mg/kg (rabbit)
	LC50 / 4 h	25 mg/m ³ (rat)

- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** Irritating effect.

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- **Sensitization:** Sensitization possible through skin contact.
- **Additional toxicological information:**
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
Irritant
- **Sensitisation** May cause sensitisation by skin contact.

12 Ecological information

- **Ecotoxicological effects:**

- **Aquatic toxicity:**

67-64-1 acetone

EC50 / 48 h	39 mg/l (daphnia magna)
LC50 / 48 h	2262 mg/l (daphnia magna)
LC50 / 96 h (static)	5540 mg/l (fish)

64742-49-0 Naphtha (petroleum), hydrotreated light

LC50	127-159 mg/l (Leuciscus idus)
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108-65-6 2-methoxy-1-methylethyl acetate

EC50	408 mg/l (daphnia magna)
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71-36-3 butan-1-ol

EC50 / 48 h	1983 mg/l (daphnia magna)
EC50 / 72 h	8500 mg/l (algae)

- **Remark:** Harmful to fish
- **General notes:**
Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.
Harmful to aquatic organisms

13 Disposal considerations

- **Product:**
- **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.

- **European waste catalogue**

20 01 13	solvents
15 01 04	metallic packaging

- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

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14 Transport information

· Land transport ADR/RID (cross-border)



- ADR/RID class: 2 5F Gases.
- Danger code (Kemler): 23
- UN-Number: 1950
- Packaging group: -
- Hazard label 2.1
- Description of goods: 1950 AEROSOLS

· Maritime transport IMDG:



- IMDG Class: 2.1
- UN Number: 1950
- Label 2.1
- Packaging group: -
- EMS Number: F-D,S-U
- Marine pollutant: No
- Proper shipping name: AEROSOLS

· Air transport ICAO-TI and IATA-DGR:



- ICAO/IATA Class: 2.1
- UN/ID Number: 1950
- Label 2.1
- Packaging group: -
- Proper shipping name: AEROSOLS, flammable

15 Regulatory information

· Labelling according to EU guidelines:

The product has been classified and marked in accordance with EU Directives / Ordinance on Hazardous Materials.

· Code letter and hazard designation of product:



Xi Irritant
F+ Extremely flammable

· Hazard-determining components of labelling:

Rosin

· Risk phrases:

- 12 Extremely flammable.
- 36 Irritating to eyes.

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- 43 *May cause sensitisation by skin contact.*
- 52/53 *Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.*
- 66 *Repeated exposure may cause skin dryness or cracking.*
- 67 *Vapours may cause drowsiness and dizziness.*

· Safety phrases:

- 2 *Keep out of the reach of children.*
- 23 *Do not breathe aerosol.*
- 26 *In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.*
- 29/56 *Do not empty into drains, dispose of this material and its container at hazardous or special waste collection point.*
- 46 *If swallowed, seek medical advice immediately and show this container or label.*
- 51 *Use only in well-ventilated areas.*

· Special labelling of certain preparations:

- Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use.*
- Do not spray on a naked flame or any incandescent material. Keep away from sources of ignition - No smoking.*
- Buildup of explosive mixtures possible without sufficient ventilation.*
- Keep out of the reach of children*

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· Relevant R-phrases

- 10 *Flammable.*
- 11 *Highly flammable.*
- 12 *Extremely flammable.*
- 22 *Harmful if swallowed.*
- 36 *Irritating to eyes.*
- 36/37 *Irritating to eyes and respiratory system.*
- 37/38 *Irritating to respiratory system and skin.*
- 38 *Irritating to skin.*
- 41 *Risk of serious damage to eyes.*
- 43 *May cause sensitisation by skin contact.*
- 51/53 *Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.*
- 65 *Harmful: may cause lung damage if swallowed.*
- 66 *Repeated exposure may cause skin dryness or cracking.*
- 67 *Vapours may cause drowsiness and dizziness.*

· Department issuing MSDS: QHSE Department**· Contact:**

Mr. J. Bungard

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