

# SIGMA EDGEGUARD

6 pages

September 2007  
Revision of August 2007

<b>DESCRIPTION</b>	two component solvent free amine cured phenolic epoxy coating
<b>PRINCIPAL CHARACTERISTICS</b>	<ul style="list-style-type: none"> <li>– tank coating for crude oil/ballast and aliphatic petroleum products</li> <li>– good edge covering capacity</li> <li>– excellent water and fuel resistance</li> <li>– good resistance against a wide range of chemicals and solvents</li> <li>– glossy and smooth appearance</li> <li>– easy to clean</li> <li>– can be applied by heavy duty single feed airless spray equipment (60:1) or by plural component spray</li> <li>– reduced explosion risk and fire hazard</li> <li>– non-flammable</li> <li>– dry heat resistance up to 350°F (177°C)</li> <li>– listed on QPL for MIL-PRF-23236, Type VII, Classes 5, 7, 13 &amp; 19, Grade C</li> </ul>
<b>COLORS AND GLOSS</b>	off-white, WD-grey - gloss
<b>BASIC DATA AT 68°F</b>	(8.25 lb/US gal = 1 g/cm <sup>3</sup> ; 40.7 ft <sup>2</sup> /US gal = 1 m <sup>2</sup> /l) (data for mixed product)
Mass density	10.85 lbs/gal (1.3 g/cm <sup>3</sup> )
Solids content	100%
VOC (by formula)	max. 0 g/kg (Directive 1999/13/EC, SED) max. 0 lb/gal (0 g/l)
VOC (by EPA Method 24)	0.2 lb/gal (25 g/ltr) see information sheet 1411
Recommended dry film thickness	10 - 16 mils (250 - 400 μm)
Theoretical spreading rate	163 ft <sup>2</sup> /gal (4.0 m <sup>2</sup> /l) for 10 mils (250 μm), 102 ft <sup>2</sup> /gal (2.5 m <sup>2</sup> /l) for 16 mils (400 μm) *
Touch dry after	6 hours
Overcoating interval	min. 24 hours * max. 20 days *
Full cure after	5 days *
	(data for components)
Shelf life (cool and dry place)	at least 24 months * see additional data

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## RECOMMENDED SUBSTRATE CONDITIONS AND TEMPERATURES

- steel with suitable primer (Sigma Edgeguard primer) which must be dry, clean and free from any contamination
- substrate temperature must be above 50°F (10°C) and at least 5°F (3°C) above dew point during application and curing

## INSTRUCTIONS FOR USE

mixing ratio by volume: base to hardener 4 : 1

- the temperature of the mixed base and hardener should preferably be above 68°F (20°C)
- at lower temperature the viscosity will be too high for spray application
- no thinner should be added

Induction time

none

Pot life

1 hour at 68°F (20°C) \*  
\* see additional data

## AIRLESS SPRAY

- heavy duty single feed airless spray equipment preferably 60:1 pump ratio and suitable high pressure hoses
- in-line heating or insulated hoses may be necessary to avoid cooling down of paint in hoses at low air temperature
- Hose suggestions:  
Hoses should normally be kept as short as possible.  
Up to 50 ft length, use hose with minimum 3/8" internal diameter.  
For 50 -100 ft lengths, use hoses with 1/2" minimum internal diameter.  
A short 1/4" whip end section may be used for ease of application.

Recommended thinner

no thinner should be added

Nozzle orifice

approx. 0.019" - 0.021" in (= 0.48 - 0.53 mm)

Nozzle pressure

at 68°F (20°C) (paint temperature) min. 4000 p.s.i.  
(= approx. 28 Mpa or 280 bar)  
at 86°F (30°C) (paint temperature) min. 3000 p.s.i.  
(= approx. 22 MPa or 220 bar)

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## PLURAL COMPONENT AIRLESS SPRAY

Material may have to be heated above 120°F (50°C) to achieve required temperature at the tip, depending on length of line and ambient conditions. Heat base and hardener equally but do not exceed 140°F (60°C).

All temperatures should be verified with a calibrated thermometer.

Exposure of hardener to atmospheric moisture and carbon dioxide should be minimized.

Consult SigmaKalon Marine & Protective Coatings for further details.

Recommended thinner

no thinner should be added

Nozzle orifice

approx. 0.019" - 0.021" in (= 0.48 - 0.53 mm)

Nozzle pressure

2130 - 3000 p.s.i. (= approx. 15 - 21 Mpa; 150 - 210 bar)

Nozzle temperature

95 - 120°F (35 - 50°C)

## BRUSH/ROLLER

Recommended thinner

for stripe coating and spot repair only

no thinner should be added

## CLEANING SOLVENT

Sigma thinner 90-83

- all equipment used for application must be cleaned immediately after use
- paint inside the spraying equipment must be removed before the pot life time has been expired

## SAFETY PRECAUTIONS

for paint and recommended thinners see safety sheets 1430, 1431 and relevant material safety data sheets

although this is a solvent free paint, care should be taken to avoid inhalation of spray mist as well as contact between the wet paint and exposed skin or eyes

- no solvent present; however, spray mist is not harmless, a fresh air mask should be used during spraying
- ventilation should be provided in confined spaces to maintain good visibility

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## ADDITIONAL DATA

### *Film thickness and spreading rate*

theoretical	163 (4.0)	102 (2.5)
spreading rate ft <sup>2</sup> /gal (m <sup>2</sup> /l)		
dft in mil (µm)	10 (250)	16 (400)

### **measuring wet film thickness**

- a deviation is often obtained between the measured apparent wft and the real applied wft
- this is due to the thixotropy and the surface tension of the paint which retards the release of air trapped in the paint film for some time
- recommendation is to apply a WFT which is equal to the specified dft plus 2.4 mils (60 µm)

### **measuring dry film thickness**

- because of low initial hardness the dft cannot be measured within some days due to the penetration of the measuring device into the soft paint film
- the dft should be measured using a calibration foil of known thickness placed in between the coating and the measuring device

### *Overcoating table with Sigma Edgeguard*

substrate temperature	41°F (5°C)	50°F (10°C)	68°F (20°C)	86°F (30°C)
minimum interval	80 hours	36 hours	24 hours	16 hours
maximum interval	20 days	20 days	20 days	14 days

- surface should be dry and free from chalking and contamination

### *Curing table*

substrate temperature	dry to handle rainproof	full cure
41°F (5°C)	60 hours	15 days
50°F (10°C)	30 hours	7 days
68°F (20°C)	16 hours	5 days
86°F (30°C)	10 hours	3 days

- adequate ventilation must be maintained during application and curing (please refer to sheet 1433 and 1434)

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**Pot life**

68°F (20°C)	60 min.
86°F (30°C)	45 min.

- the potlife is 1 hour at a temperature of 68°F (20°C) and will be reduced at higher temperatures
- due to exothermic reaction, temperature during pot life may increase up to 140°F (60°C) at gel point

**Worldwide availability**

Whilst it is always the aim of SigmaKalon Marine & Protective Coatings to supply the same product on a worldwide basis, slight modification of the product is sometimes necessary to comply with local or national rules/ circumstances.

Under these circumstances an alternative product data sheet is used.

**REFERENCES**

Explanation to product data sheets	see information sheet 1411
Safety indications	see information sheet 1430
Safety in confined spaces and health safety	
Explosion hazard - toxic hazard	see information sheet 1431
Safe working in confined spaces	see information sheet 1433
Directives for ventilation practice	see information sheet 1434
Cleaning of steel and removal of rust	see information sheet 1490
Specification for mineral abrasives	see information sheet 1491

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## LIMITATION OF LIABILITY

The information in this data sheet is based upon laboratory tests we believe to be accurate and is intended for guidance only. All recommendations or suggestions relating to the use of the Sigma Coatings products made by SigmaKalon Marine & Protective Coatings, whether in technical documentation, or in response to a specific enquiry, or otherwise, are based on data which to the best of our knowledge are reliable. The products and information are designed for users having the requisite knowledge and industrial skills and it is the end-user's responsibility to determine the suitability of the product for its intended use.

SigmaKalon Marine & Protective Coatings has no control over either the quality or condition of the substrate, or the many factors affecting the use and application of the product. SigmaKalon Marine & Protective Coatings therefore does not accept any liability arising from loss, injury or damage resulting from such use or the contents of this data sheet (unless there are written agreements stating otherwise).

The data contained herein are liable to modification as a result of practical experience and continuous product development. This data sheet replaces and annuls all previous issues and it is therefore the user's responsibility to ensure that this sheet is current prior to using the product.

In the event of any disparity or dispute in the wording of this document, the original English text shall prevail.

PDS	5428
197330 grey	5000001378
197331 grey	5000002189
197332 off-white	7001001378
197333 off-white	7001002189
198885 off-white	7001003946
198985 WD grey	1318681378
198989 WD grey	1318682189