

# DATA SHEET

41111704 ENGOBE ENSP-18 A.ULTRAMAR POLVO

29/01/2025 v1.4

## 1. PRODUCT IDENTIFICATION

Description DARK BLUE ENGOBE. It belongs to the "ENSP" series ( COLOURED ENGOBE). Compound of frit: CAS N°. 65997-18-4.

Application Can be used for decoration of white body or red bodies. The temperature range is from 930 to 1050 ° C, obtaining the maximum colour development at 980 ° C. They can be used at higher temperatures obtaining other finishes

## 2. CHEMICAL COMPOSITION

Metal oxides with concentrations less than 0.05% have not been determined.

Li <sub>2</sub> O	1-5	ZnO	0.5-1	Cr <sub>2</sub> O <sub>3</sub>	5-10	CaF <sub>2</sub>		Co-Cr-Al	10-20
Na <sub>2</sub> O		MnO		B <sub>2</sub> O <sub>3</sub>		Bi <sub>2</sub> O <sub>3</sub>		MEDIUM	0-0.5
K <sub>2</sub> O		CdO		V <sub>2</sub> O <sub>5</sub>		P <sub>2</sub> O <sub>5</sub>		LOI	1-5
MgO		CoO		MnO <sub>2</sub>		BeO			
CaO		NiO		SiO <sub>2</sub>	40-80	CeO <sub>2</sub>			
SrO	0-0.5	Al <sub>2</sub> O <sub>3</sub>	5-10	TiO <sub>2</sub>	0-0.5	CuO			
BaO	0.5-1	Fe <sub>2</sub> O <sub>3</sub>	0-0.5	ZrO <sub>2</sub>		Pr <sub>2</sub> O <sub>3</sub>			
PbO		Sb <sub>2</sub> O <sub>3</sub>		SnO <sub>2</sub>					

## 3 PHYSICAL-CHEMICAL PROPERTIES

Aspect **Blue powder**  
Color(fired) **Dark blue**

## 4. COLORIMETRY

\* By Minolta ChromaControl (S)

L: **34.54** a: **-7.03** b: **-14.86**

## 5. DILATOMETRY

\* Data obtained with dilatometer BÄHR mod. DIL 801 L  $10^{-7} \text{ C}^{-1}$

(25-300)C°	(50-300)C°	(300-500)C°	(500-600)C°	T <sup>a</sup> Transformation	T <sup>a</sup> Softening	Melting point
50.4	49.3	64	98.4	538 C°	885 C°	>980 C°

## 6. GRANULOMETRIC DISTRIBUTION (WET WAY)

\* Data obtained by Malvern Instruments (Master Sizer 2000)

>10μ	>25μ	>40μ	>70μ	>120μ	D50μ
34.8	11.9	5.1	1.1	0	5.9

## 7. RECOMMENDATIONS ON GLAZED OBJECTS INTENDED FOR CULINARY USE

Formulated without lead and cadmium.

Notes: n.a (not applicable), n.d (no information available), p.n (negative tests)

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