

Independently verified by NSF in accordance with ISO 21930 and ISO 14025

Life cycle assessment independently verified in accordance with ISO 14044

### DOCUMENT OBJECTIVE:

Provide an overview of the critical data that can be used to calculate the Global Warming Potential (GWP) in kilograms per carbon equivalent (kg CO<sub>2</sub>e) for this product.

### METHODOLOGY FOR CARBON EQUIVALENT CALCULATIONS:

The document utilises an externally validated methodology that has been developed for all site-applied decorative coatings which has been applied to high performance industrial coatings. The assessment was completed using high-quality datasets including primary source, industry data, and commercial data in the GaBi LCA tool. Although not a perfect fit, it provides comparative data through an established independently verified framework widely in use by the coatings industry.

Key clarifications include:

- Based on Product Stage to End-of-Life of Product (Cradle to Grave)
- Under Product Category Rules (PCR) selected for Architectural Coatings
- Functional Unit: 1 m<sup>2</sup> of protected substrate for 60 years (assumed lifetime of the building)
- PCR based on market life of 10 years includes multiple re-applications throughout the life of the building

### WHAT IS CARBON EQUIVALENT?

A **carbon dioxide equivalent** or **CO<sub>2</sub> equivalent**, abbreviated as **CO<sub>2</sub>e** is a metric measure used to compare the emissions from various greenhouse gases on the basis of their global-warming potential (GWP), by converting amounts of other gases to the equivalent amount of carbon dioxide with the same global warming potential.\*

### HOW TO CALCULATE THE CARBON EQUIVALENT VALUE FROM THIS EPD DOCUMENT TO USE ON A PROJECT?

MACROPOXY 646		Part A	Part B
A	Total Quantity Needed using Market-Based Life (kg) <b>TABLE 3</b>	0.85	0.99
B	GWP Inc. Bio Carb (kg CO <sub>2</sub> e) stated on EPD <b>TABLE 6</b>	2.73	4.84
C	Mix Ratio (kg)	0.476	0.524
D	GWP Inc. Bio Carb (kg CO <sub>2</sub> e) per mix ratio	1.53	2.56
		<b>Mix</b>	
E	GWP Inc. Bio Carb (kg CO <sub>2</sub> e) per 1 kg Mix	4.09	
F	GWP Inc. Bio Carb (kg CO <sub>2</sub> e) per 1 litre (kg x Density)	6.34	

\* [https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Glossary:Carbon\\_dioxide\\_equivalent#:~:text=A%20carbon%20dioxide%20equivalent%20or,with%20the%20same%20global%20warmingeu/eurostat/statistics-explained/index.php?title=Glossary:Carbon\\_dioxide\\_equivalent#:~:text=A%20carbon%20dioxide%20equivalent%20or,with%20the%20same%20global%20warming](https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Glossary:Carbon_dioxide_equivalent#:~:text=A%20carbon%20dioxide%20equivalent%20or,with%20the%20same%20global%20warmingeu/eurostat/statistics-explained/index.php?title=Glossary:Carbon_dioxide_equivalent#:~:text=A%20carbon%20dioxide%20equivalent%20or,with%20the%20same%20global%20warming)