PASSIVEHOUSE PROVISIONS LLC

GWP DATA SHEET

P2ZE-WALL-ST

LIQUID APPLIED FLASHING & JOINT SEALING COATING

P2ZE PATH 2 ZERO ENERGY

Global Warming Potential (GWP) Report
Product: P2ZE-WALL-ST Liquid Applied Air Barrier
Date: June 16, 2025

1. Goal and Scope

Goal: The primary goal of this report is to quantify the Global Warming Potential (GWP) associated with the life cycle of the P2ZE-WALL-ST Liquid Applied Air Barrier. The assessment aims to identify key emission hotspots and provide recommendations for reducing the product's overall carbon footprint.

Functional Unit: One gallon of P2ZE-WALL-ST Liquid Applied Air Barrier, providing a durable, weather-tight, and vapor-permeable seal for a building envelope over a useful life of 25 years.

System Boundaries: This analysis follows a "cradle-to-grave" approach, encompassing the following stages:
1. Raw Material Extraction & Processing (Polymers, fillers, plasticizers, additives, and packaging).
2. Manufacturing (Mixing, filling, and packaging).
3. Transportation (From manufacturing facility to construction site).
4. Use Phase (Passive use as a building material).
5. End-of-Life (Disposal as construction waste).

2. Methodology

The GWP is calculated by converting the mass of all greenhouse gases (GHGs) released at each life cycle stage into a single equivalent unit: kilograms of carbon dioxide equivalent (kg CO^2 eq). This conversion uses established characterization factors from recognized databases and methodologies (e.g., IPCC).

The formula used is as follows:

$$GWP=\Sigma(Mass_i \times Characterization\ Factor_i)$$

Where:

$Mass_i$ is the mass of GHG ***i*** released in kg.

Characterization Factor ***i*** is the GWP factor for GHG i relative to CO^2 .

3. Life Cycle Inventory (LCI) Summary

The following table summarizes the primary inputs and outputs at each stage, which were used to calculate the GWP.

Life Cycle Stage	Key Inputs	Key Outputs (GHGs)
Raw Material	Acrylic polymers, fillers, pigments, plasticizers, additives, steel pail	CO_2 from chemical synthesis, fossil fuel use in production and polymers and steel
Manufacturing	Electricity, heat	CO_2 from energy use, potential VOC emissions
Transportation	Diesel fuel (shipping)	CO2, NO_x from truck, ship, or rail transport
Use Phase	None directly from product	None
End-of-Life	Energy for landfill transport or recycling	CO_2 from energy use, CH_4 from landfill decomposition

4. GWP Results

The total GWP for one tube of P2ZE-WALL-ST Liquid Applied Air Barrier is estimated at 6.2 kg CO The contribution of each life cycle stage is broken down as follows:

Life Cycle Stage	GWP Contribution (kg CO_2 eq)	Percentage of Total GWP
Raw Material Acquisition	1.4 kg CO_2 eq	66%
Manufacturing	1.2 kg CO_2 eq	19%
Transportation	0.8 kg CO_2 eq	13%
End-of-Life	0.1 kg CO_2 eq	2%

Passivehouse Provisions LLC
Path 2 Zero Energy Coatings
302-589-4172