

# kg Water-based paint

Paint is used to protect surfaces from moisture, UV and wear. It can protective coating for timber, metals, plastics and plaster products. There are two main types of paint: water-based paint (including waterborne acrylics, and acrylic latex paints) and solvent-based paint (also known as alkyd or oil-based enamel paints).

Paint is produced by combining resin, solvents, pigment, and additives. Resins are used to bind together the ingredients. For water-based paint these include: poly vinyl acetate, butyl methacrylate and methyl. Solvents such as water and mineral turpentine are used to dilute and thin the paint. Pigments are added to create colour and sheen, and can include calcium carbonate, talc, oxides and mica amongst others. Other additives are included to reduce drying time and give the paint particular properties.

Water-based paints have several advantages over oil-based alternatives. They are excellent for external applications, and have high tolerance to UV. They have a low odour, are easy to clean, and are less hazardous to dispose of. They also have better flexibility, dry faster, and are generally more environmentally friendly due to the low amounts of volatile organic compounds (VOCs), which are commonly found in solvent-based paints. Paints with high levels of VOCs are toxic to the environment, have a harsh odour and can be dangerous to inhale.

**Category** *Miscellaneous*  
**Type** *Paint*  
**Functional unit** *kg*  
**Density** *1 250 kg/m<sup>3</sup>*

**Common uses**  
*Exterior and internal finishes, sealant, weatherproofing*

**Process name**  
*Alkyd paint, white, 60% in H2O, at plant/RER U/AusSD U*

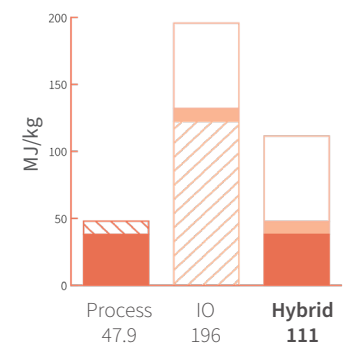
**Input-output sector**  
*Polymer Product Manufacturing*

**Further information**  
[doi.org/10.26188/5da558e47158f](https://doi.org/10.26188/5da558e47158f)

Material variations	Unit	Energy (MJ/unit)	Water (L/unit)	GHG emissions (kgCO <sub>2</sub> e/unit)
Water-based paint	kg	111	206	6.8
Water-based paint - per m <sup>2</sup>	m <sup>2</sup>	8.7	16.1	0.5

### TOP THREE INPUTS

- 4.3% Penta-erythritol, at plant/RER U/AusSD U
- 4.2% Road Transport
- 1.2% Wholesale Trade

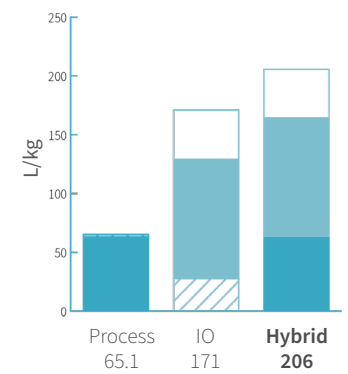


**ENERGY**

**111 MJ/kg**

### TOP THREE INPUTS

- 22.9% Other Agriculture
- 4.4% Penta-erythritol, at plant/RER U/AusSD U
- 1.8% Wholesale Trade

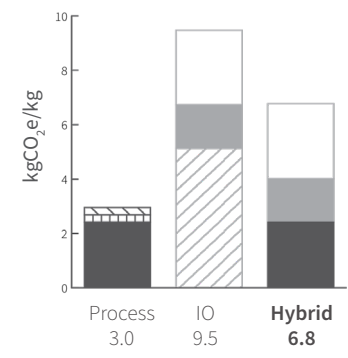


**WATER**

**206 L/kg**

### TOP THREE INPUTS

- 4.2% Penta-erythritol, at plant/RER U/AusSD U
- 2.3% Road Transport
- 1.8% Wholesale Trade



**GREENHOUSE GAS EMISSIONS**

**6.8 kgCO<sub>2</sub>e/kg**

