

Cetol WP 560 'Cradle to Gate' Data

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Akzo Nobel Specialist Coatings is a trading division
 of Akzo Nobel Decorative Coatings Limited.

Akzo Nobel Specialist Coatings has embarked on a process of
 assessing the environmental performance of several of its
 water-borne coating systems, using Life Cycle Assessments.
 This 'cradle to grave' assessment method is recognised to be
 the best tool available for assessing environmental
 performance, and our studies have been conducted according
 to the standards specified in the ISO 14000 series.

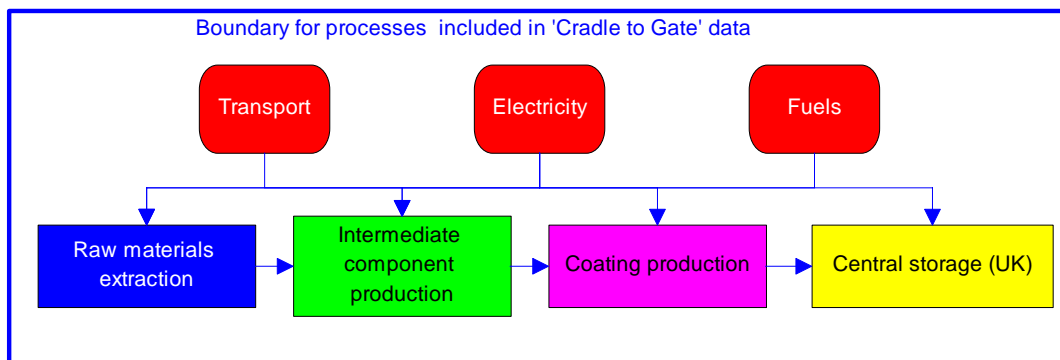
In order to make this information available to our customers
 in as useable a form as possible, we have developed these
 environmental product data sheets, which summarise the data
 generated by our LCA studies.

Cetol WP 560 is a high performance translucent water-
 borne, moisture vapour-permeable base stain. It is
 supplied mainly, in 20 or 1000 litre containers, for
 factory application by dipping, flow coating or saturation
 spraying.

It is an alkyd/acrylic resin formulation dispersed in
 water, with a volume solids concentration of
 approximately 15% (depending upon colour).

The Functional unit

The data provided below are cradle to storage depot
 data (as illustrated in the figure below) for the
 production of **1000 kg of Cetol WP 560**



Labelling and declaration of contents

Content	Symbol letters	Risk phrases
This product is not classified as dangerous for supply according to the CHIP Regulations.		

Environmental Data

The data presented here relate to current production, and were
 gathered during 2002/2003. Contact Akzo Nobel Specialist Coatings
 for further details of the LCA studies upon which they are based,
 and for full technical and safety data for these products.

This data include the effects of all transport processes from the
 extraction of raw materials from the Earth, until the packaged
 product arrives at the storage depot in the UK.

For customers intending to make the Sikkens Translucent
 Coating System a part of their project, they are able to use
 these product-specific data as a direct addition to whole-
 project environmental assessments. By simply estimating the
 quantities of each coating required to produce and maintain
 the timber components within a project, the appropriate
 multiples of either the raw data or the impact data can be
 added to their whole-project data. Akzo Nobel Specialist
 Coatings technical support staff can assist with this.

Consumption and emissions data per 1000 kg of Cetol WP 560.

Non Renewable Resources

Without energy content	kg	With energy content	MJ
Bauxite	0.389	Coal	3,098
Calcium (Ca)	0.792	Gas	13,503
Iron (Fe)	0.188	Oil	13,129
Limestone	1.634		
Sand	0.988		
Sulphur (S)	2.706		

Renewable Resources

Without energy content	kg	With energy content	MJ
Starch potatoes	2.943	Soya oil (36 MJ/kg)	49.442

Electricity Consumption

Electricity production source	kWh
Gas fired	19
Oil fired	6
Coal fired	98
Nuclear	63
Hydro	12

Waste Generated

Material	kg
Special waste	7
Bulk waste	27

Emissions to Air

Material	g
1,4-dichlorobenzene	0.629
Ammonia	2.937
Ammonium	1.587
Aromatics (unspecified)	8.788
Arsenic	0.004
Benzene	0.189
Cadmium (II) ion	0.001
Carbon dioxide	1,317,600
Carbon monoxide	1,631
Dinitrogen oxide	0.002
Dust (PM10)	86.674
Ethylene	0.017
Ethylene glycol	0.002
Ethylene oxide	0.017
Formaldehyde	0.238
Hydrogen chloride	44.324
Hydrogen fluoride	2.372
Lead (II) ion	0.042
Methane	9,691
Methyl chloride	0.074
Nickel	0.001
Nitrogen dioxide	0.972
Nitrogen oxides (as NO2)	7,440
PAH*	0.293
Propane	0.031
Propylene	0.002
Propylene glycol	0.008
Propylene oxide	0.006
Soot	445
Sulphur dioxide	6,110
Sulphur hexafluoride	0.004
Sulphur trioxide	0.020
Toluene	0.024
Non methane VOC	2,870
Zinc (II) ion	0.011

* Polycyclic Aromatic Hydrocarbons

Emissions to Water

Material to fresh water	g
Ammonia	210
Benzene	0.007
Biological Oxygen Demand (BOD)	334
Chemical Oxygen demand (COD)	3,233
Chlorine	1,678
Dust (PM10)	1,374
Hydrogen chloride	24
Hydrogen sulfide	0.001
Mercury (II) ion	0.000
Nitrate	398
Nitrogenous compounds	0.118
Phenol	4.683
Phosphate	23
Sulphates	2,323
Material to marine water	g
Dust (PM10)	7.862
Hydrogen chloride	8.820
Phenol	0.140

Life Cycle Impact Assessment Scores

Category	Units	Score
Global warming	kg CO2 eq.	1,540
Ozone layer depletion	kg CFC-11 eq.	0.0000015
Photochemical oxidation	kg ethylene eq.	0.4
Acidification	kg SO2 eq.	11.1
Eutrophication	kg PO4--- eq.	1.2

*The impact categories used, are explained in Datasheet 1 of this series