

Product Environmental Profile

iDPNa Vigi+4.5KA 16A





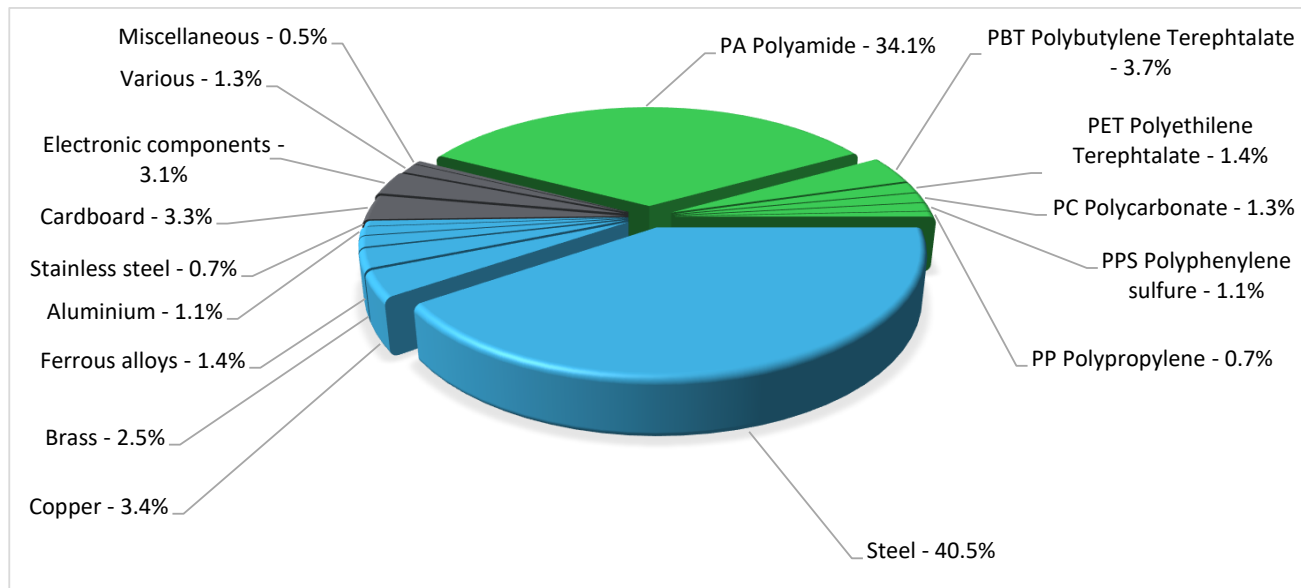
General information

Representative product	iDPNa Vigi+4.5KA 16A - A9D91616
Description of the product	The main purpose of the product is to ensure that people are protected from electric shocks, terminal overload and short circuits in low-voltage power systems.
Description of the range	<p>This range consists RCBO of 6 A to 32 A, 1 P +N, C curve. The representative product used for the analysis is iDPNa Vigi+4.5KA 16A (commercial reference:A9D91616). The mass range of the product is 127.91 g to 131.88 g including packaging.</p> <p>The environmental impacts of this referenced product are representative of the impacts of the other products of the range which are developed with a similar technology.</p>
Functional unit	<p>Protect during 20 years the installation against overloads and short-circuits and people and premises at risk of fire or explosion against insulation defects in circuit with assigned voltage 230V AC and rated current 16A. This protection is ensured in accordance with the following parameters:</p> <ul style="list-style-type: none"> - Number of poles =1P+N - Rated breaking capacity I_{cn}=4.5kA - Tripping curve Cd=C - Sensitivity S =30mA - Type of differential protection T_p =AC -followed standards=IEC 61009-1



Constituent materials

Reference product mass	127.9 g including the product, its packaging and additional elements and accessories
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Plastics	42.3%
Metals	49.5%
Others	8.2%



Substance assessment

Products of this range are designed in conformity with the requirements of the RoHS directive (European Directive 2011/65/EU of 2 January 2013, amended in March 2015, 2015/863/EU and in November 2017, 2017/2102/EU) and do not contain, or only contain in the authorised proportions, lead, mercury, cadmium, hexavalent chromium or flame retardants (polybrominated biphenyls - PBB, polybrominated diphenyl ethers - PBDE), Bis (2-ethylhexyl)phthalate - DEHP, Benzyl butyl phthalate- BBP, Dibutyl phthalate - DBP, Diisobutyl phthalate - DIBP) as mentioned in the Directive.

Details of ROHS and REACH substances information are available on the Schneider-Electric Green Premium website

<http://www2.schneider-electric.com/sites/corporate/en/products-services/green-premium/green-premium.page>



Additional environmental information

The iDPNa Vigi+4.5KA 16A presents the following relevant environmental aspects

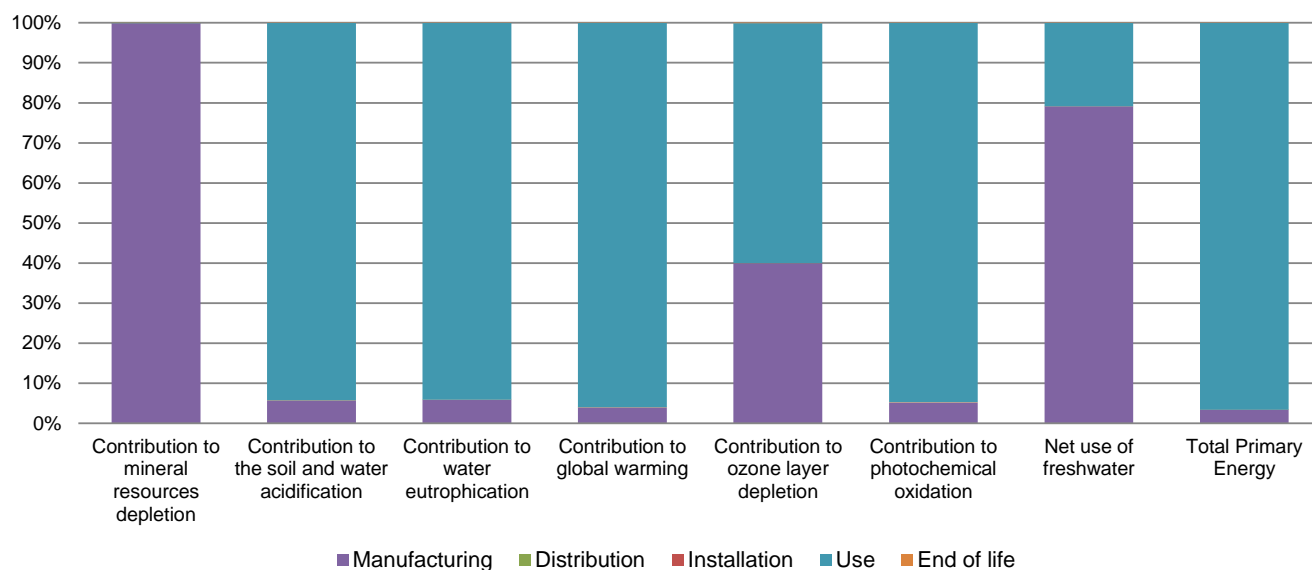
Manufacturing	Manufactured at a Schneider Electric production site ISO14001 certified
Distribution	Weight and volume of the packaging optimized, based on the European Union's packaging directive Packaging weight is 4.4 g, consisting of cardboard(99%),paper(1%)
Installation	Ref A9D45616 does not require any installation operations
Use	The product does not require special maintenance operations.
End of life	End of life optimized to decrease the amount of waste and allow recovery of the product components and materials No special end-of-life treatment required. According to countries' practices this product can enter the usual end-of-life treatment process. Recyclability potential: 48% Based on "ECO'DEEE recyclability and recoverability calculation method" (version V1, 20 Sep. 2008 presented to the French Agency for Environment and Energy Management: ADEME).



Environmental impacts

Reference life time	20 years			
Product category	Differential circuit breaker			
Installation elements	The product does not require special installation procedure and requires little to no energy to install. The disposal of the packaging materials are accounted for during the installation phase (including transport to disposal).			
Use scenario	Load rate: 50% of In Use time rate: 30% of RLT			
Geographical representativeness	China			
Technological representativeness	The main purpose of the product is to ensure that people are protected from electric shocks, terminal overload and short circuits in low-voltage power systems.			
Energy model used	Manufacturing	Installation	Use	End of life
	Energy model used: China	Electricity mix; AC; consumption mix, at consumer; 220V; CN	Electricity mix; AC; consumption mix, at consumer; 220V; CN	Electricity mix; AC; consumption mix, at consumer; 220V; CN

Compulsory indicators		iDPNa Vigi+4.5KA 16A - A9D91616					
Impact indicators	Unit	Total	Manufacturing	Distribution	Installation	Use	End of Life
Contribution to mineral resources depletion	kg Sb eq	2.49E-04	2.48E-04	0*	0*	2.25E-07	0*
Contribution to the soil and water acidification	kg SO ₂ eq	5.91E-02	3.33E-03	7.53E-05	0*	5.56E-02	3.85E-05
Contribution to water eutrophication	kg PO ₄ ³⁻ eq	1.56E-02	9.01E-04	1.74E-05	0*	1.47E-02	1.08E-05
Contribution to global warming	kg CO ₂ eq	5.35E+01	2.14E+00	1.65E-02	0*	5.13E+01	2.06E-02
Contribution to ozone layer depletion	kg CFC11 eq	6.82E-07	2.72E-07	0*	0*	4.08E-07	8.76E-10
Contribution to photochemical oxidation	kg C ₂ H ₄ eq	6.94E-03	3.59E-04	5.38E-06	0*	6.57E-03	4.00E-06
Resources use	Unit	Total	Manufacturing	Distribution	Installation	Use	End of Life
Net use of freshwater	m3	2.75E-01	2.17E-01	0*	0*	5.73E-02	0*
Total Primary Energy	MJ	8.70E+02	2.93E+01	2.33E-01	0*	8.40E+02	1.87E-01



Optional indicators		iDPNa Vigi+4.5KA 16A - A9D91616					
Impact indicators	Unit	Total	Manufacturing	Distribution	Installation	Use	End of Life
Contribution to fossil resources depletion	MJ	7.99E+02	2.31E+01	2.32E-01	0*	7.76E+02	1.50E-01
Contribution to air pollution	m³	5.60E+03	2.71E+02	7.02E-01	0*	5.32E+03	1.35E+00
Contribution to water pollution	m³	2.91E+03	3.56E+02	2.71E+00	0*	2.55E+03	1.63E+00
Resources use	Unit	Total	Manufacturing	Distribution	Installation	Use	End of Life
Use of secondary material	kg	7.30E-03	7.30E-03	0*	0*	0*	0*
Total use of renewable primary energy resources	MJ	4.39E+01	8.26E-01	0*	0*	4.31E+01	0*
Total use of non-renewable primary energy resources	MJ	8.26E+02	2.85E+01	2.33E-01	0*	7.97E+02	1.86E-01
Use of renewable primary energy excluding renewable primary energy used as raw material	MJ	4.39E+01	8.12E-01	0*	0*	4.31E+01	0*
Use of renewable primary energy resources used as raw material	MJ	1.38E-02	1.38E-02	0*	0*	0*	0*
Use of non renewable primary energy excluding non renewable primary energy used as raw material	MJ	8.24E+02	2.70E+01	2.33E-01	0*	7.97E+02	1.86E-01
Use of non renewable primary energy resources used as raw material	MJ	1.51E+00	1.51E+00	0*	0*	0*	0*
Use of non renewable secondary fuels	MJ	0.00E+00	0*	0*	0*	0*	0*
Use of renewable secondary fuels	MJ	0.00E+00	0*	0*	0*	0*	0*
Waste categories	Unit	Total	Manufacturing	Distribution	Installation	Use	End of Life
Hazardous waste disposed	kg	1.06E+01	8.72E+00	0*	0*	1.65E+00	1.94E-01
Non hazardous waste disposed	kg	1.02E+01	9.03E-01	0*	0*	9.31E+00	0*
Radioactive waste disposed	kg	7.25E-04	4.17E-04	4.18E-07	0*	3.07E-04	9.05E-07
Other environmental information	Unit	Total	Manufacturing	Distribution	Installation	Use	End of Life
Materials for recycling	kg	7.83E-02	1.34E-02	0*	4.39E-03	0*	6.06E-02
Components for reuse	kg	0.00E+00	0*	0*	0*	0*	0*
Materials for energy recovery	kg	2.84E-03	0*	0*	0*	0*	2.84E-03
Exported Energy	MJ	1.39E-05	1.31E-06	0*	1.26E-05	0*	0*

* represents less than 0.01% of the total life cycle of the reference flow

Life cycle assessment performed with EIME version EIME v5.9.4, database version 2022-01 in compliance with ISO14044.

The use phase is the life cycle phase which has the greatest impact on the majority of environmental indicators (based on compulsory indicators).

According to this environmental analysis, proportionality rules may be used to evaluate the impacts of other products of this range.

For our products, the first proposition for significant parameter is energy consumption values.

Depending on the impact analysis, the environmental indicators (without RMD) of other products in this family may be proportional extrapolated by energy consumption values. For RMD, impact may be proportional extrapolated by mass of the product.

Please note that the values given above are only valid within the context specified and cannot be used directly to draw up the environmental assessment of an installation.

Registration number	ENVPEP2209018_V1-EN	Drafting rules	PCR-ed3-EN-2015 04 02
Date of issue	01/2023	Supplemented by	PSR-0005-ed2-EN-2016 03 29
Validity period	5 years	Information and reference documents	www.pep-ecopassport.org
Independent verification of the declaration and data			
Internal	X	External	
The elements of the present PEP cannot be compared with elements from another program.			
Document in compliance with ISO 14021:2016 « Environmental labels and declarations - Self-declared environmental claims (Type II environmental labelling) »			

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