# Product Environmental Profile

## Resi9 Switch 1P 100A

## as referent product for :
## All Switches in RESI9 range




Schneider Electric

# General information

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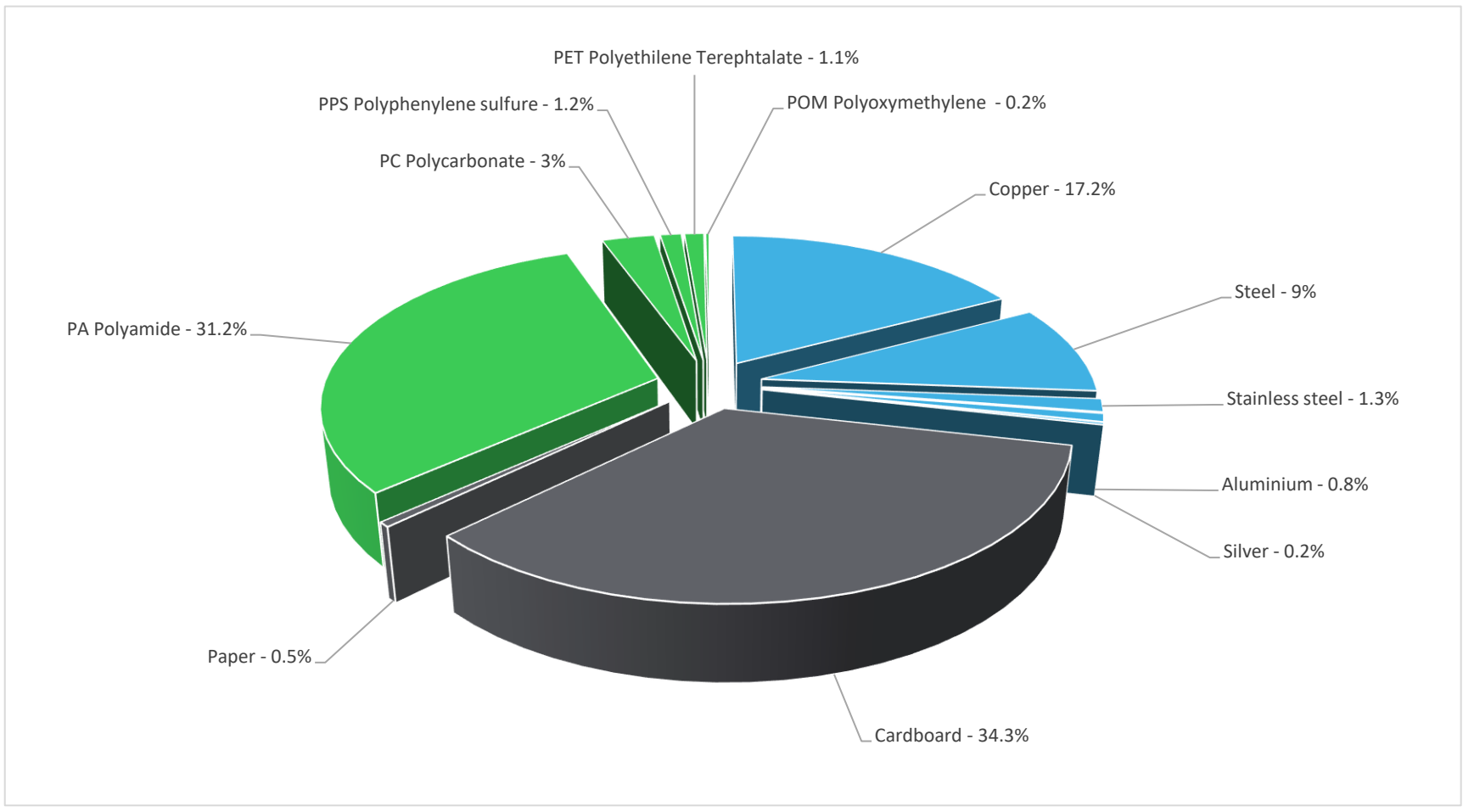
|---|---|
| **Reference product** | Resi9 Switch 1P 100A - R9S06191 |
| **Description of the product** | The switch-disconnector is to open and close supply of circuits under load. |
| **Description of the range** | The indicator values of this Resi9 Switches can be extrapolated, based on the Mass and Energy values of the products, for other Resi9 Switches and other current ratings with all finishing types.<br>The environmental impacts of this reference product are representative of the impacts of the other products of the range which are developed with a similar technology. |
| **Functional unit** | To establish, support and interrupt for 20 years rated currents in normal conditions of circuit characterized by the current Ith - 100A with 1P, including any conditions specified for the operating voltage Ue - 230V AC and a current for short-circuit Icw - 6000A with the frequency of 50/60Hz.The IP20 Class is the degree of protection against the ingress of solid foreign objects and water with harmful effects in accordance with the standard IEC60947.3 &GB14048.3. |

# Constituent materials

| | | |
|---|---|---|
| **Reference product mass** | 127.1 g | including the product, its packaging and additional elements and accessories |




| | | |
|---|---|---|
| | Plastics | 36.70% |
| | Metals | 28.50% |
| | Others | 34.80% |

# Substance assessment

Details of ROHS and REACH substances information are available on the Schneider-Electric Green Premium website
https://www.se.com/ww/en/work/support/green-premium/

# Additional environmental information

| | | | |
|---|---|---|---|
| **End Of Life** | Recyclability potential: | **43%** | Recyclability rate has been calculated based on REEECY'LAB tool developed by Ecosystem, for components/materials not covered by the tool, data from the “ECO’DEEE recyclability and recoverability calculation method” was taken. If no data was found a conservative assumption was used (0% recyclability). |

# Environmental impacts

| | |
|---|---|
| **Reference service life time** | 20 years |
| **Product category** | Switches |
| **Installation elements** | The disposal of the packaging materials are accounted for during the installation phase (including transport to disposal). |
| **Use scenario** | Full load is 6,7 W power loses. For 20 years, the product is having the load rate is 50% of In; and a use rate of 30% of the time with a power losses of 1,67 W. |
| **Technological representativeness** | The Modules of Technologies such as material production, manufacturing process and transport technology used in this PEP analysis (LCA-EIME in this case) are Similar and representative of the actual type of technologies used to make the product in production. |
| **Geographical representativeness** | New Zealand |

| **Energy model used** | [A1 - A3] | [A5] | [B6] | [C1 - C4] |
|---|---|---|---|---|
| | Electricity Mix; Production mix; Low voltage; CN | Electricity mix; AC; consumption mix, at consumer; 230V; NZ | Electricity mix; AC; consumption mix, at consumer; 230V; NZ | Electricity mix; AC; consumption mix, at consumer; 230V; NZ |

Detailed results, including all the optional indicators mentioned in PCRed4, and the split of the Use Phase (B1 to B7), are available in the LCA report and on demand in a digital format - Country Customer Care Center - http://www.schneider-electric.com/contact

| **Mandatory Indicators** | | **Resi9 Switch 1P 100A - R9S06191** | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Impact indicators** | **Unit** | **Total** | **Manufacturing [A1 - A3]** | **Distribution [A4]** | **Installation [A5]** | **Use [B1 - B7]** | **End of Life [C1 - C4]** | **Benefits [D]** |
| Contribution to climate change | kg CO2 eq | 2.38E+01 | 1.08E+00 | 3.66E-02 | 7.85E-02 | 2.24E+01 | 2.17E-01 | -2.09E-01 |
| Contribution to climate change-fossil | kg CO2 eq | 2.38E+01 | 1.07E+00 | 3.66E-02 | 7.50E-02 | 2.24E+01 | 2.13E-01 | -2.02E-01 |
| Contribution to climate change-biogenic | kg CO2 eq | 1.80E-02 | 1.02E-02 | 0* | 3.49E-03 | 0* | 4.35E-03 | -7.49E-03 |
| Contribution to climate change-land use and land use change | kg CO2 eq | 7.26E-08 | 0* | 0* | 0* | 0* | 7.26E-08 | 0.00E+00 |
| Contribution to ozone depletion | kg CFC-11 eq | 9.48E-07 | 6.90E-07 | 3.23E-08 | 5.20E-09 | 2.18E-07 | 2.96E-09 | -3.36E-08 |
| Contribution to acidification | mol H+ eq | 9.22E-02 | 7.99E-03 | 1.59E-04 | 3.12E-04 | 8.30E-02 | 7.43E-04 | -4.48E-03 |
| Contribution to eutrophication, freshwater | kg $(PO4)^{3-}$eq | 1.66E-04 | 1.07E-05 | 0* | 5.67E-07 | 4.55E-07 | 1.55E-04 | -7.34E-07 |
| Contribution to eutrophication marine | kg N eq | 1.32E-02 | 1.30E-03 | 7.32E-05 | 8.25E-05 | 1.17E-02 | 1.20E-04 | -1.61E-04 |
| Contribution to eutrophication, terrestrial | mol N eq | 1.45E-01 | 1.39E-02 | 7.93E-04 | 6.23E-04 | 1.28E-01 | 1.49E-03 | -1.73E-03 |
| Contribution to photochemical ozone formation - human health | kg COVNM eq | 4.93E-02 | 4.98E-03 | 2.60E-04 | 1.66E-04 | 4.35E-02 | 3.77E-04 | -7.51E-04 |
| Contribution to resource use, minerals and metals | kg Sb eq | 2.58E-04 | 2.53E-04 | 0* | 0* | 1.11E-06 | 4.35E-06 | -4.38E-05 |
| Contribution to resource use, fossils | MJ | 1.74E+02 | 1.47E+01 | 4.45E-01 | 8.17E-01 | 1.54E+02 | 3.30E+00 | -3.23E+00 |
| Contribution to water use | m3 eq | 7.81E-01 | 0* | 1.86E-03 | 3.35E-02 | 6.24E-01 | 1.39E-01 | -2.20E-01 |

*Additional indicators for the French regulation are available as well*

| **Inventory flows Indicators** | | **Resi9 Switch 1P 100A - R9S06191** | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Inventory flows** | **Unit** | **Total** | **Manufact. [A1 - A3]** | **Distribution [A4]** | **Installation [A5]** | **Use [B1 - B7]** | **End of Life [C1 - C4]** | **Benefits [D]** |
| Contribution to use of renewable primary energy excluding renewable primary energy used as raw material | MJ | 2.76E+02 | 1.01E-01 | 0* | 5.86E-02 | 2.76E+02 | 1.05E-01 | -2.28E-03 |
| Contribution to use of renewable primary energy resources used as raw material | MJ | 2.64E-01 | 2.64E-01 | 0* | 0* | 0* | 0* | -2.40E-01 |
| Contribution to total use of renewable primary energy resources | MJ | 2.77E+02 | 3.64E-01 | 0* | 5.86E-02 | 2.76E+02 | 1.05E-01 | -2.42E-01 |
| Contribution to use of non renewable primary energy excluding non renewable primary energy used as raw material | MJ | 1.73E+02 | 1.36E+01 | 4.45E-01 | 8.17E-01 | 1.54E+02 | 3.30E+00 | -3.23E+00 |
| Contribution to use of non renewable primary energy resources used as raw material | MJ | 1.17E+00 | 1.17E+00 | 0* | 0* | 0* | 0* | 0.00E+00 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Contribution to total use of non-renewable primary energy resources | MJ | 1.74E+02 | 1.47E+01 | 4.45E-01 | 8.17E-01 | 1.54E+02 | 3.30E+00 | -3.23E+00 |
| Contribution to use of secondary material | kg | 3.34E-02 | 3.34E-02 | 0* | 0* | 0* | 0* | 0.00E+00 |
| Contribution to use of renewable secondary fuels | MJ | 0.00E+00 | 0* | 0* | 0* | 0* | 0* | 0.00E+00 |
| Contribution to use of non renewable secondary fuels | MJ | 0.00E+00 | 0* | 0* | 0* | 0* | 0* | 0.00E+00 |
| Contribution to net use of freshwater | $m^3$ | 1.82E-02 | 0* | 4.33E-05 | 7.81E-04 | 1.45E-02 | 3.24E-03 | -5.13E-03 |
| Contribution to hazardous waste disposed | kg | 5.15E+00 | 4.68E+00 | 0* | 9.28E-04 | 3.93E-01 | 8.22E-02 | -3.82E+00 |
| Contribution to non hazardous waste disposed | kg | 2.99E+00 | 6.09E-01 | 0* | 2.55E-01 | 2.08E+00 | 4.65E-02 | -5.22E-01 |
| Contribution to radioactive waste disposed | kg | 4.80E-04 | 2.80E-04 | 7.28E-06 | 3.43E-05 | 1.57E-04 | 2.05E-06 | -1.43E-04 |
| Contribution to components for reuse | kg | 0.00E+00 | 0* | 0* | 0* | 0* | 0* | 0.00E+00 |
| Contribution to materials for recycling | kg | 7.80E-02 | 0* | 0* | 4.31E-02 | 0* | 3.48E-02 | 0.00E+00 |
| Contribution to materials for energy recovery | kg | 0.00E+00 | 0* | 0* | 0* | 0* | 0* | 0.00E+00 |
| Contribution to exported energy | MJ | 0.00E+00 | 0* | 0* | 0* | 0* | 0* | 0.00E+00 |
| Contribution to biogenic carbon content of the product | kg de C | 0.00E+00 | 0* | 0* | 0* | 0* | 0* | 0.00E+00 |
| Contribution to biogenic carbon content of the associated packaging | kg de C | 0.00E+00 | 0* | 0* | 0* | 0* | 0* | 0.00E+00 |

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

*Life cycle assessment performed with EIME version 5.9.4, database version 2022-01 in compliance with ISO14044.*

*Detailed results, including all the optional indicators mentioned in PCRed4, and the split of the Use Phase (B1 to B7), are available in the LCA report and on demand in a digital format - Country Customer Care Center - http://www.schneider-electric.com/contact*

According to this environmental analysis, proportionality rules may be used to evaluate the impacts of other products of this range, ratios to apply can be provided upon request

The Use phase is the life cycle phase which has the greatest impact on the majority of environmental indicators. For ADP indicator, main contribution is silver contacts with an impact of 91.8%, and for ODP indicator, main contribution is Cardboard with an impact of 27.5%.

*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 :* | ENVPEP2210013_V1 | *Drafting rules* | PEP-PCR-ed4-2021 09 06 |
| *Validity period* | 5 years | *Supplemented by* | PSR-0005-ed2-2016 03 29 |
| *Date of issue* | 05/2023 | *Information and reference documents* | www.pep-ecopassport.org |

*Independent verification of the declaration and data, in compliance with ISO 14021 : 2016*

Internal X External

*The PCR review was conducted by a panel of experts chaired by Julie ORGELET (Ddemain)*

*PEP are compliant with XP C08-100-1 :2016 or EN 50693:2019*

*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. Type II environmental declarations »*

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