# Product Environmental Profile

## Acti9 - iC60 - Miniature circuit breaker

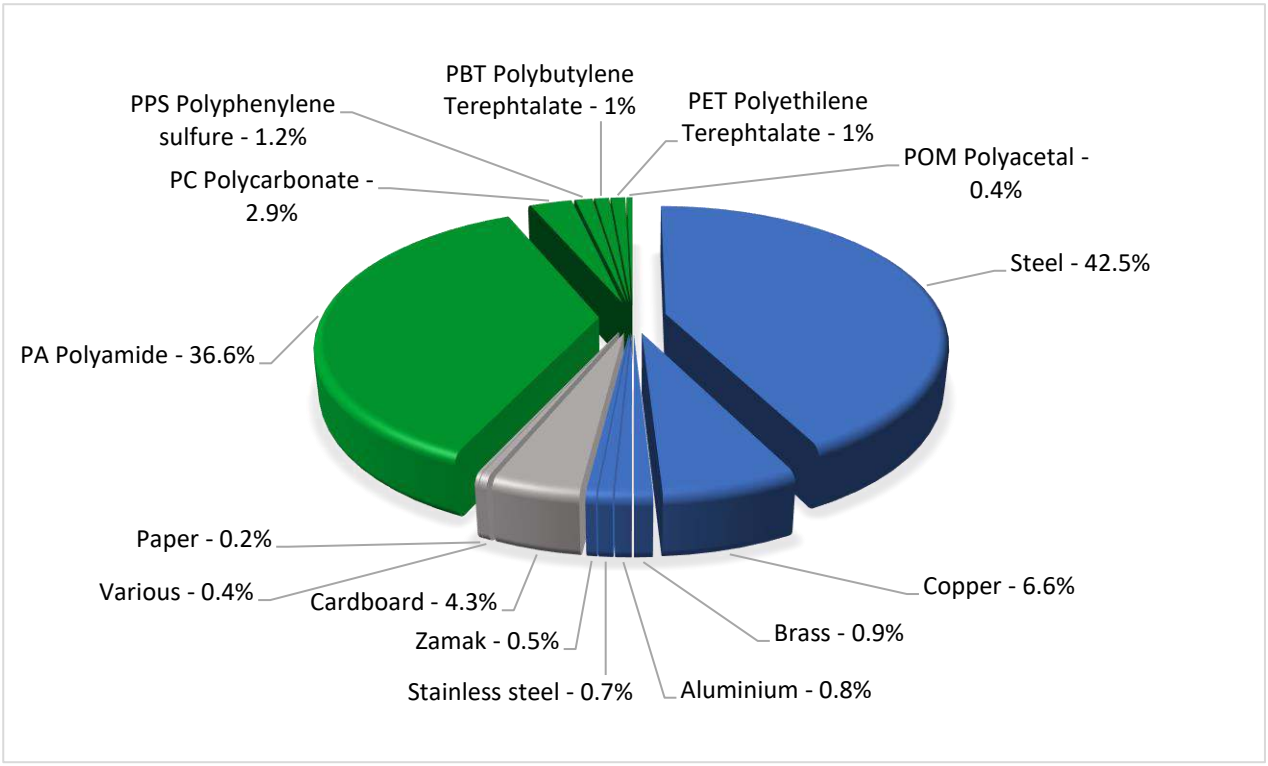


# General information

| | |
|---|---|
| **Representative product** | Acti9 - iC60 - Miniature circuit breaker - A9F74216 |
| **Description of the product** | iC60 circuit breakers ensure the protection of the electrical installation against overloads and short-circuits |
| **Functional unit** | Protect during 20 years the installation against overloads and short-circuits in circuit with assigned voltage 400V and rated current 16A. This protection is ensured in accordance with the following parameters:<br>- Number of poles 2P<br>- Rated breaking capacity 6000A<br>- Tripping curve C |

# Constituent materials

| | | |
|---|---|---|
| **Reference product mass** | 231.9g | including the product, its packaging and additional elements and accessories |




| | | |
|---|---|---|
| | Plastics | 43,1% |
| | Metals | 52,0% |
| | Others | 4,9% |

# Substance assessment

Products of this range are designed in conformity with the requirements of the RoHS directive (European Directive 2011/65/EU of 8 June 2011) 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) as mentioned in the Directive.
As the products of the range are designed in accordance with the RoHS Directive (European Directive 2002/95/EC of 27 January 2003), they can be incorporated without any restriction in an assembly or an installation subject to this 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

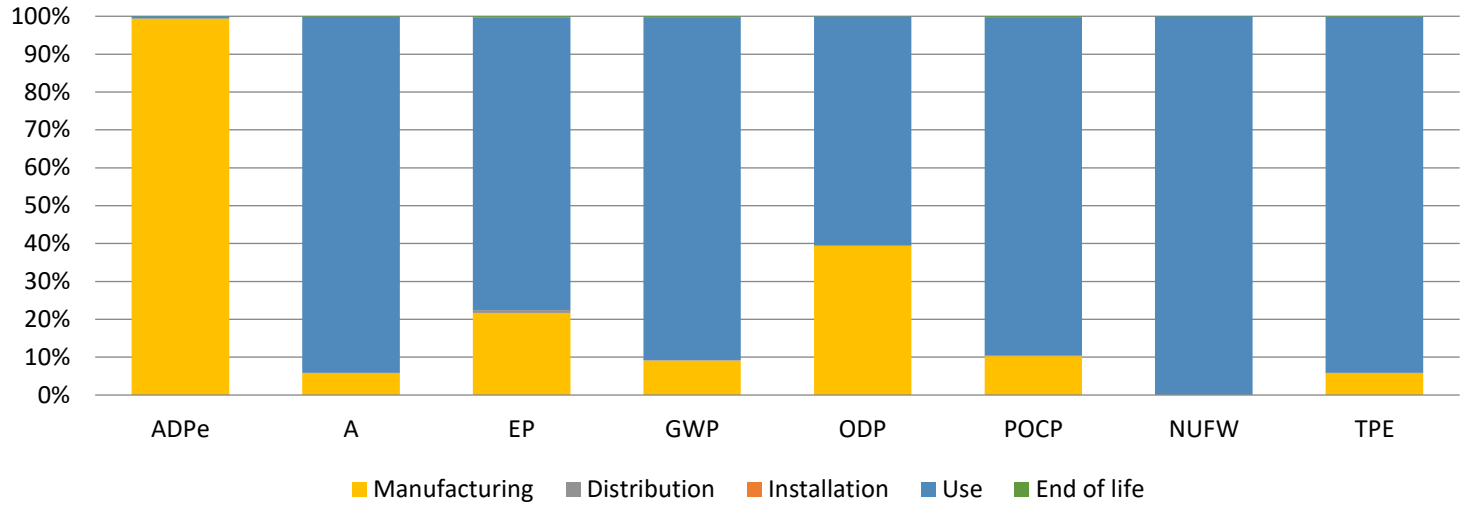
# Additional environmental information

| The Acti9 - iC60 - Miniature circuit breaker - A9F74216 presents the following relevent 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<br>Packaging weight is 10.8 g, consisting of cardboard (94.83%), paper (5.17%) |
| **Installation** | Reference A9F74216 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<br>No special end-of-life treatment required. According to countries' practices this product can enter the usual end-of-life treatment process.<br>Recyclability potential: **51%** 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** | Circuit-breakers | | | |
| **Installation elements** | No special components needed | | | |
| **Use scenario** | Load rate: 50% of In<br>Use time rate: 30% of RL | | | |
| **Geographical representativeness** | Europe | | | |
| **Technological representativeness** | iC60 circuit breakers are multi-standard circuit breakers which protect against short-circuit and overload currents. | | | |
| **Energy model used** | **Manufacturing** | **Installation** | **Use** | **End of life** |
| | Energy model used: France | Electricity grid mix; AC; consumption mix, at consumer; < 1kV; EU-27 | Electricity grid mix; AC; consumption mix, at consumer; < 1kV; EU-27 | Electricity grid mix; AC; consumption mix, at consumer; < 1kV; EU-27 |

| Compulsory indicators | Acti9 - iC60 - Miniature circuit breaker - A9F74216 | | | | | | |
|---|---|---|---|---|---|---|---|
| **Impact indicators** | **Unit** | Total | Manufacturing | Distribution | Installation | Use | End of Life |
| Contribution to mineral resources depletion | kg Sb eq | 2,32E-04 | 2,30E-04 | 0* | 0* | 1,29E-06 | 0* |
| Contribution to the soil and water acidification | kg $SO_2$ eq | 6,57E-02 | 3,74E-03 | 1,37E-04 | 0* | 6,18E-02 | 6,82E-05 |
| Contribution to water eutrophication | kg $PO_4^{3-}$ eq | 4,83E-03 | 1,05E-03 | 3,15E-05 | 5,93E-07 | 3,73E-03 | 1,91E-05 |
| Contribution to global warming | kg $CO_2$ eq | 1,64E+01 | 1,49E+00 | 2,99E-02 | 0* | 1,48E+01 | 3,64E-02 |
| Contribution to ozone layer depletion | kg CFC11 eq | 1,60E-06 | 6,32E-07 | 0* | 0* | 9,65E-07 | 1,54E-09 |
| Contribution to photochemical oxidation | kg $C_2H_4$ eq | 3,80E-03 | 3,89E-04 | 9,75E-06 | 0* | 3,39E-03 | 7,11E-06 |
| **Resources use** | **Unit** | Total | Manufacturing | Distribution | Installation | Use | End of Life |
| Net use of freshwater | m3 | 5,37E+01 | 1,49E-02 | 0* | 0* | 5,37E+01 | 0* |
| Total Primary Energy | MJ | 3,14E+02 | 1,79E+01 | 4,23E-01 | 0* | 2,96E+02 | 3,31E-01 |




| Optional indicators | | iC60N 2P 16A C - A9F74216 | | | | | |
|---|---|---|---|---|---|---|---|
| **Impact indicators** | **Unit** | Total | Manufacturing | Distribution | Installation | Use | End of Life |
| Contribution to fossil resources depletion | MJ | 1,79E+02 | 1,02E+01 | 4,20E-01 | 0* | 1,68E+02 | 2,66E-01 |
| Contribution to air pollution | m³ | 9,89E+02 | 3,48E+02 | 1,27E+00 | 0* | 6,37E+02 | 2,40E+00 |
| Contribution to water pollution | m³ | 1,09E+03 | 4,75E+02 | 4,92E+00 | 0* | 6,11E+02 | 2,90E+00 |
| **Resources use** | **Unit** | Total | Manufacturing | Distribution | Installation | Use | End of Life |
| Use of secondary material | kg | 1,35E-02 | 1,35E-02 | 0* | 0* | 0* | 0* |
| Total use of renewable primary energy resources | MJ | 3,80E+01 | 3,65E-01 | 0* | 0* | 3,76E+01 | 0* |
| Total use of non-renewable primary energy resources | MJ | 2,76E+02 | 1,75E+01 | 4,22E-01 | 0* | 2,58E+02 | 3,31E-01 |
| Use of renewable primary energy excluding renewable primary energy used as raw material | MJ | 3,79E+01 | 3,25E-01 | 0* | 0* | 3,76E+01 | 0* |
| Use of renewable primary energy resources used as raw material | MJ | 4,01E-02 | 4,01E-02 | 0* | 0* | 0* | 0* |
| Use of non renewable primary energy excluding non renewable primary energy used as raw material | MJ | 2,74E+02 | 1,49E+01 | 4,22E-01 | 0* | 2,58E+02 | 3,31E-01 |
| Use of non renewable primary energy resources used as raw material | MJ | 2,61E+00 | 2,61E+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 | 1,34E+01 | 1,31E+01 | 0* | 0* | 7,72E-03 | 3,36E-01 |
| Non hazardous waste disposed | kg | 5,61E+01 | 9,31E-01 | 0* | 0* | 5,52E+01 | 0* |
| Radioactive waste disposed | kg | 3,74E-02 | 5,41E-04 | 0* | 0* | 3,69E-02 | 0* |
| **Other environmental information** | **Unit** | Total | Manufacturing | Distribution | Installation | Use | End of Life |
| Materials for recycling | kg | 1,51E-01 | 2,34E-02 | 0* | 1,08E-02 | 0* | 1,17E-01 |
| Components for reuse | kg | 0,00E+00 | 0* | 0* | 0* | 0* | 0* |
| Materials for energy recovery | kg | 5,01E-03 | 0* | 0* | 0* | 0* | 5,01E-03 |
| Exported Energy | MJ | 3,42E-05 | 3,22E-06 | 0* | 3,10E-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 v5.8.1, database version 2016-11 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).

*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 :* | SCHN-00485-V01.01-EN | *Drafting rules* | PCR-ed3-EN-2015 04 02 |
| *Verifier accreditation N°* | VH33 | *Supplemented by* | PSR-0005-ed2-EN-2016 03 29 |
| *Date of issue* | 09/2019 | *Information and reference documents* | www.pep-ecopassport.org |
| | | *Validity period* | 5 years |

*Independent verification of the declaration and data, in compliance with ISO 14025 : 2010*

Internal External X

*The PCR review was conducted by a panel of experts chaired by Philippe Osset (SOLINNEN)*

*PEP are compliant with XP C08-100-1 :2016*

*The elements of the present PEP cannot be compared with elements from another program.*

*Document in compliance with ISO 14025 : 2010 « Environmental labels and declarations. Type III environmental declarations »*

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