

Circular Economy Ontology Network (CEON) - Product Module

Metadata

IRI

<http://w3id.org/CEON/ontology/product/>

Title

Circular Economy Ontology Network (CEON) - Product Module

Creator

Huanyu Li

Contributor

Eva Blomqvist

Mikael Lindecrantz

Robin Keskisärkkä

Date Created

2023-03-16

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Version Iri

<http://w3id.org/CEON/ontology/product/0.4/>

Version Info

0.4

Preferred Namespace Prefix

product

Preferred Namespace Uri

<http://w3id.org/CEON/ontology/product/>

Description

The Product module of CEON (Circular Economy Ontology Network).

Covers Requirements

In addition to requirements covered by imported ODPs, covers the following requirements from Onto-DESIDE D3.1: CVN-Resource-2, CVN-ResourceType-4, C11-2, C12-1, C13-3, E2-1, T8-3.

In addition to requirements covered by imported ODPs, covers the following requirements from Onto-DESIDE D3.2: CE5-2, C11-2, C12-1, C13-3, E2-1, T8-3.

Classes

Actor^C

IRI

<http://w3id.org/CEON/ontology/actorODP/Actor>

Resource Relation^C

IRI

<http://w3id.org/CEON/ontology/actorODP/ResourceRelation>

Super Class Of

[resourceODP:Composition^C](#)

Process^C

IRI <http://w3id.org/CE0N/ontology/processODP/Process>

Compliance^C

IRI <http://w3id.org/CE0N/ontology/product/Compliance>

In Domain Of [complianceWith](#)^{op}
[hasCertificate](#)^{dp}

In Range Of [hasCompliance](#)^{op}

Item^C

IRI <http://w3id.org/CE0N/ontology/product/Item>

Description An item is a physical object put into a market for sale, i.e. corresponding to an individual of a product. The item can be a thing that grows naturally or produced through some chemical or manufacturing processes.

Sub Class Of [resourceODP:PhysicalObject](#)^C

In Domain Of [hasProductObjectComponent](#)^{op}
[modelled by](#)^{op}

In Range Of [associatedWithProductObject](#)^{op}
[hasProductObjectComponent](#)^{op}

Restriction [modelled by](#)^{op} *exactly* 1 [Item](#)^C

Matter composition^C

IRI <http://w3id.org/CE0N/ontology/product/MatterComposition>

Description A product composition is the composed information of a product in terms of a specific component, in which such a component is also a matter.

Sub Class Of [resourceODP:Composition](#)^C

In Domain Of [associated with matter](#)^{op}

Restriction [associated with matter](#)^{op} *exactly* 1 [Matter composition](#)^C

Product^C

IRI	http://w3id.org/CE0N/ontology/product/Product
<u>Is Defined By</u>	ISO 59004:2024 -3.2.2 product
<u>Description</u>	<p>Physical-based object designed for or utilized with a purpose. A product can be, for example: goods of any type; hardware (e.g. engine mechanical part, spare parts, consumables); electrical or electronic hardware devices or components (e.g. computers, communication equipment and sensors); processed materials (e.g. lubricant, cement).</p> <p>Represents the common sense notion of a product, i.e. the abstract notion of a product type, which is a model that is used for manufacturing items of that product.</p>
<u>Sub Class Of</u>	Solution^C
<u>In Domain Of</u>	has product component ^{OP}
<u>In Range Of</u>	associated with product model ^{OP} batch of products ^{OP} has product component ^{OP} modelled by ^{OP}
<u>Restriction</u>	hasComposition ^{OP} some Product^C hasComposition ^{OP} some Product^C

Product composition^C

IRI	http://w3id.org/CE0N/ontology/product/ProductComposition
<u>Description</u>	A product composition is the composed information of a product in terms of a specific component, in which such a component is also a product.
<u>Sub Class Of</u>	resourceODP:Composition^C
<u>In Domain Of</u>	associated with product model ^{OP}
<u>Restriction</u>	associated with product model ^{OP} <i>exactly</i> 1 Product composition^C

Product Object Composition^C

IRI	http://w3id.org/CE0N/ontology/product/ProductObjectComposition
<u>Sub Class Of</u>	resourceODP:Composition^C
<u>In Domain Of</u>	associatedWithProductObject ^{OP}
<u>Restriction</u>	associatedWithProductObject ^{OP} <i>exactly</i> 1 ProductObjectComposition^C

Solution^C

IRI	http://w3id.org/CE0N/ontology/product/Solution
<u>Is Defined By</u>	ISO 59004:2024 - 3.2.1 solution
<u>Description</u>	Product or service, or a combination thereof, that fulfils a need of an interested party.
<u>Super Class Of</u>	Product^C

Batch Of Objects^C

IRI	http://w3id.org/CE0N/ontology/resourceODP/BatchOfObjects
<u>In Domain Of</u>	batch of products^{op}
<u>Restriction</u>	batch of products^{op} <i>exactly</i> 1 resourceODP:BatchOfObjects^C

Composition^C

IRI	http://w3id.org/CE0N/ontology/resourceODP/Composition
<u>Sub Class Of</u>	actorODP:ResourceRelation^C
<u>In Domain Of</u>	compositionOf^{op} Composition quantity^{dp}
<u>In Range Of</u>	hasComposition^{op}
<u>Super Class Of</u>	Matter composition^C Product composition^C ProductObjectComposition^C

Matter^C

IRI	http://w3id.org/CE0N/ontology/resourceODP/Matter
<u>In Range Of</u>	associated with matter^{op}

Physical Object^C

IRI	http://w3id.org/CE0N/ontology/resourceODP/PhysicalObject
<u>Super Class Of</u>	Item^C

Object Properties

associated with matter^{op}

IRI	http://w3id.org/CE0N/ontology/product/associatedWithMatter
Description	associatedWithMatter intends to represent the matter to which a matter composition information regards to.
Domain	Matter composition ^c
Range	resourceODP:Matter ^c

associated with product model^{op}

IRI	http://w3id.org/CE0N/ontology/product/associatedWithProductModel
Description	associatedWithProductModel intends to represent the product model to which a product composition information regards to.
Domain	Product composition ^c
Range	Product ^c

associated with product object^{op}

IRI	http://w3id.org/CE0N/ontology/product/associatedWithProductObject
Sub Property Of	topObjectProperty ^{op}
Domain	ProductObjectComposition ^c
Range	Item ^c

batch of products^{op}

IRI	http://w3id.org/CE0N/ontology/product/batchOfProduct
Description	batchOfProduct intends to represent what is the model product of a batch of objects.
Domain	resourceODP:BatchOfObjects ^c
Range	Product ^c

compliance with^{op}

IRI	http://w3id.org/CE0N/ontology/product/complianceWith
Domain	Compliance ^c

composition of^{op}

IRI <http://w3id.org/CE0N/ontology/product/compositionOf>

Domain [resourceODP:Composition](#)^C

Range [resourceODP:Matter](#)^C or [Item](#)^C or [Product](#)^C

has compliance^{op}

IRI <http://w3id.org/CE0N/ontology/product/hasCompliance>

Domain [actorODP:Actor](#)^C or <http://w3id.org/CE0N/ontology/processODP/Process>^C or [Product](#)^C or [Item](#)^C

Range [Compliance](#)^C

has composition^{op}

IRI <http://w3id.org/CE0N/ontology/product/hasComposition>

Description hasComposition intends to represent that a product model or physical object can have composition information.

Domain [resourceODP:PhysicalObject](#)^C or [Product](#)^C

Range [resourceODP:Composition](#)^C

has product component^{op}

IRI <http://w3id.org/CE0N/ontology/product/hasProductComponent>

Description hasProductComponent intends to represent that a product can have other product components.

Domain [Product](#)^C

Range [Product](#)^C

has product object component^{op}

IRI <http://w3id.org/CE0N/ontology/product/hasProductObjectComponent>

Domain [Item](#)^C

Range [Item](#)^C

modelled by^{dp}

IRI	http://w3id.org/CE0N/ontology/product/modelledBy
Description	modelledBy intends to represent that product objects follow particular product models.
Domain	Item ^c
Range	Product ^c

Datatype Properties

Composition quantity^{dp}

IRI	http://w3id.org/CE0N/ontology/product/compositionQuantity
Domain	resourceODP:Composition ^c
Range	xsd:double

country of assembly^{dp}

IRI	http://w3id.org/CE0N/ontology/product/countryOfAssembly
Sub Property Of	locationOfAssembly ^{dp}

country of manufacture^{dp}

IRI	http://w3id.org/CE0N/ontology/product/countryOfManufacture
Sub Property Of	locationOfManufacture ^{dp}

country of origin^{dp}

IRI	http://w3id.org/CE0N/ontology/product/countryOfOrigin
Sub Property Of	locationOfOrigin ^{dp}

has certificate^{dp}

IRI	http://w3id.org/CE0N/ontology/product/hasCertificate
Domain	Compliance ^c

location of assembly^{dp}

IRI	http://w3id.org/CE0N/ontology/product/locationOfAssembly
Super Property Of	countryOfAssembly ^{dp}
Domain	Product ^c or Item ^c
Range	xsd:string

location of manufacture^{dp}

IRI	http://w3id.org/CE0N/ontology/product/locationOfManufacture
Super Property Of	countryOfManufacture ^{dp}
Domain	Item ^c or Product ^c
Range	xsd:string

location of origin^{dp}

IRI	http://w3id.org/CE0N/ontology/product/locationOfOrigin
Super Property Of	countryOfOrigin ^{dp}
Domain	Product ^c or Item ^c
Range	xsd:string

Annotation Properties

contributor^{ap}

IRI	http://purl.org/dc/terms/contributor
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created^{ap}

IRI	http://purl.org/dc/terms/created
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creator^{ap}

IRI	http://purl.org/dc/terms/creator
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description^{ap}

IRI	http://purl.org/dc/terms/description
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license ^{ap}	
IRI	http://purl.org/dc/terms/license
title ^{ap}	
IRI	http://purl.org/dc/terms/title
preferred namespace prefix ^{ap}	
IRI	http://purl.org/vocab/vann/preferredNamespacePrefix
preferred namespace uri ^{ap}	
IRI	http://purl.org/vocab/vann/preferredNamespaceUri
covers requirements ^{ap}	
IRI	http://www.ontologydesignpatterns.org/schemas/cannotation-schema.owl#coversRequirements

Namespaces

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<http://w3id.org/CE0N/ontology/product/>
 actorODP
<http://w3id.org/CE0N/ontology/actorODP/>
 dcterms
<http://purl.org/dc/terms/>
 odp
<http://www.ontologydesignpatterns.org/schemas/cannotationschema.owl#>
 owl
<http://www.w3.org/2002/07/owl#>
 prov
<http://www.w3.org/ns/prov#>
 rdf
<http://www.w3.org/1999/02/22-rdf-syntax-ns#>
 rdfs
<http://www.w3.org/2000/01/rdf-schema#>
 resourceODP
<http://w3id.org/CE0N/ontology/resourceODP/>
 vann
<http://purl.org/vocab/vann/>
 xsd
<http://www.w3.org/2001/XMLSchema#>

Legend

c	Classes
op	Object Properties
dp	Datatype Properties
ap	Annotation Properties