Circular Economy Ontology Network (CEON) - Product Module

Metadata

IRI

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

Title

Circular Economy Ontology Network (CEON) - Product Module

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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-ResrouceType-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/CEON/ontology/processODP/Process`

Compliance ^c

IRI	`http://w3id.org/CEON/ontology/product/Compliance`
In Domain Of	complianceWith^{op} hasCertificate^{dp}
In Range Of	hasCompliance^{op}

Item ^c

IRI	`http://w3id.org/CEON/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/CEON/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/CEON/ontology/product/Product`
Is Defined By	ISO 59004:2024 -3.2.2 product
Description	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).
	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.
Sub Class Of	Solution ^C
In Domain Of	has product component ^{op}
In Range Of	associated with product model ^{op} batch of products ^{op} has product component ^{op} modelled by ^{op}
Restriction	hasComposition ^{op} some Product ^C hasComposition ^{op} some Product ^C

Product composition ^C

IRI	`http://w3id.org/CEON/ontology/product/ProductComposition`
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 product.
Sub Class Of	resourceODP:Composition ^C
In Domain Of	associated with product model ^{op}
Restriction	associated with product model ^{op} *exactly* 1 Product composition ^C

Product Object Composition ^C

IRI	`http://w3id.org/CEON/ontology/product/ProductObjectComposition`
Sub Class Of	resourceODP:Composition ^C
In Domain Of	associatedWithProductObject ^{op}
Restriction	associatedWithProductObject ^{op} *exactly* 1 ProductObjectComposition ^C

Solution ^C

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

Batch Of Objects ^C

IRI	`http://w3id.org/CEON/ontology/resourceODP/BatchOfObjects`
In Domain Of	batch of products ^{op}
Restriction	batch of products ^{op} *exactly* 1 resourceODP:BatchOfObjects ^C

Composition ^C

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

Matter ^C

IRI	`http://w3id.org/CEON/ontology/resourceODP/Matter`
In Range Of	associated with matter ^{op}

Physical Object ^C

IRI	`http://w3id.org/CEON/ontology/resourceODP/PhysicalObject`
Super Class Of	Item ^C

Object Properties

associated with matter ^{op}

IRI   `http://w3id.org/CEON/ontology/product/associatedWithMatter`

Description

associatedWithMatter intends to represent the matter to which a matter compopsition information regards to.

Domain   Matter composition ^C

Range   resourceODP:Matter ^C

associated with product model ^{op}

IRI   `http://w3id.org/CEON/ontology/product/associatedWithProductModel`

Description

associatedWithProductModel intends to represent the product model to which a product compopsition information regards to.

Domain   Product composition ^C

Range   Product ^C

associated with product object ^{op}

IRI   `http://w3id.org/CEON/ontology/product/associatedWithProductObject`

Sub Property Of   topObjectProperty ^{op}

Domain   ProductObjectComposition ^C

Range   Item ^C

batch of products ^{op}

IRI   `http://w3id.org/CEON/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/CEON/ontology/product/complianceWith`

Domain   Compliance ^C

composition of ^{op}

IRI	`http://w3id.org/CEON/ontology/product/compositionOf`
Domain	resourceODP:Composition^C
Range	Product^C *or* Item^C *or* resourceODP:Matter^C

has compliance ^{op}

IRI	`http://w3id.org/CEON/ontology/product/hasCompliance`
Domain	Item^C *or* Product^C *or* actorODP:Actor^C *or* http://w3id.org/CEON/ontology/processODP/Process^C
Range	Compliance^C

has composition ^{op}

IRI	`http://w3id.org/CEON/ontology/product/hasComposition`
Description	hasComposition intends to represent that a product model or physical object can have compostition information.
Domain	resourceODP:PhysicalObject^C *or* Product^C
Range	resourceODP:Composition^C

has product component ^{op}

IRI	`http://w3id.org/CEON/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/CEON/ontology/product/hasProductObjectComponent`
Domain	Item^C
Range	Item^C

modelled by ^{op}

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

country of assembly ^{dp}

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

country of manufacture ^{dp}

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

country of origin ^{dp}

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

has certificate ^{dp}

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

location of assembly ^{dp}

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

Annotation Properties

contributor ^{ap}

IRI	http://purl.org/dc/terms/contributor

created ^{ap}

IRI	http://purl.org/dc/terms/created

creator ^{ap}

IRI	http://purl.org/dc/terms/creator

description ^{ap}

IRI	http://purl.org/dc/terms/description

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/cpannotation schema.owl#coversRequirements`

Namespaces

:

`http://w3id.org/CEON/ontology/product/`

actorODP

`http://w3id.org/CEON/ontology/actorODP/`

dcterms

`http://purl.org/dc/terms/`

odp

`http://www.ontologydesignpatterns.org/schemas/cpannotationschema.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/CEON/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