Circular Economy Ontology Network (CEON) - Product Module

Metadata

IRI

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

Title

Circular Economy Ontology Network (CEON) - Product Module

Publisher

Onto-DESIDE

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Version Iri

http://w3id.org/CEON/ontology/product/0.5/

Version Info

0.5

Prior Version

0.4

Preferred Namespace Prefix

ceon-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`

Location [C]

IRI	http://w3id.org/CEON/ontology/location/Location
Super Class Of	AssemblyLocation [C] ManufactureLocation [C] OriginLocation [C] ProductionLocation [C] SupplierLocation [C]

Process [C]

IRI	http://w3id.org/CEON/ontology/processODP/Process

Assembly Location [C]

IRI	http://w3id.org/CEON/ontology/product/AssemblyLocation
Sub Class Of	http://w3id.org/CEON/ontology/location/Location [C]
In Domain Of	countryOfAssembly [dp]
In Range Of	hasAssemblyLocation [op]
Restriction	http://w3id.org/CEON/ontology/location/hasCity [dp] *max* 1 AssemblyLocation [C] http://w3id.org/CEON/ontology/location/hasPostalCode [dp] *max* 1 AssemblyLocation [C] http://w3id.org/CEON/ontology/location/hasStreetAddress [dp] *max* 1 AssemblyLocation [C] countryOfAssembly [dp] *max* 1 AssemblyLocation [C]

Compliance [C]

IRI	http://w3id.org/CEON/ontology/product/Compliance
In Domain Of	complianceWith [op] hasCertificate [dp]
In Range Of	hasCompliance [op]
Super Class Of	ISOCompliance [C] REACHCompliance [C] RoHSCompliance [C]

Composition ^C

IRI	http://w3id.org/CEON/ontology/product/Composition
Sub Class Of	actorODP:ResourceParticipation
In Domain Of	compositionOf ^{op} compositionQuantity ^{dp}
In Range Of	hasComposition ^{op}
Super Class Of	MatterComposition ^C ProductComposition ^C ProductObjectComposition ^C

Iso Compliance ^C

IRI	http://w3id.org/CEON/ontology/product/ISOCompliance
Sub Class Of	Compliance ^C

Item ^C

IRI	http://w3id.org/CEON/ontology/product/Item
Sub Class Of	resourceODP:PhysicalObject ^C
In Domain Of	hasProductObjectComponent ^{op} modelledBy ^{op}
In Range Of	associatedWithProductObject ^{op} hasProductObjectComponent ^{op}
Restriction	modelledBy ^{op} *exactly* 1 Item ^C

Manufacture Location ^C

IRI	http://w3id.org/CEON/ontology/product/ManufactureLocation
Sub Class Of	http://w3id.org/CEON/ontology/location/Location ^C
In Domain Of	countryOfManufacture ^{dp}
In Range Of	hasManufacturerLocation ^{op}
Restriction	http://w3id.org/CEON/ontology/location/hasCity ^{dp} *max* 1 ManufactureLocation ^C http://w3id.org/CEON/ontology/location/hasPostalCode ^{dp} *max* 1 ManufactureLocation ^C http://w3id.org/CEON/ontology/location/hasStreetAddress ^{dp} *max* 1 ManufactureLocation ^C countryOfManufacture ^{dp} *max* 1 ManufactureLocation ^C

Matter Composition ^C

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

Origin Location ^C

IRI	`http://w3id.org/CEON/ontology/product/OriginLocation`
Sub Class Of	http://w3id.org/CEON/ontology/location/Location ^C
In Domain Of	countryOfOrigin ^{dp}
In Range Of	hasOriginLocation ^{op}
Restriction	http://w3id.org/CEON/ontology/location/hasCity ^{dp} *max* 1 OriginLocation ^C http://w3id.org/CEON/ontology/location/hasPostalCode ^{dp} *max* 1 OriginLocation ^C http://w3id.org/CEON/ontology/location/hasStreetAddress ^{dp} *max* 1 OriginLocation ^C countryOfOrigin ^{dp} *max* 1 OriginLocation ^C

Product ^C

IRI	`http://w3id.org/CEON/ontology/product/Product`
Is Defined By	ISO 59004:2024 -3.2.2 product
Sub Class Of	Solution ^C resourceODP:Resource
In Domain Of	hasProductComponent ^{op}
In Range Of	associatedWithProductModel ^{op} batchOfProduct ^{op} hasProductComponent ^{op} modelledBy ^{op}
Restriction	hasComposition ^{op} some Product ^C hasComposition ^{op} some Product ^C hasAssemblyLocation ^{op} only Product ^C hasManufacturerLocation ^{op} only Product ^C hasOriginLocation ^{op} only Product ^C

Product Composition ^C

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

Product Object Composition ^C

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

Production Location ^C

IRI	`http://w3id.org/CEON/ontology/product/ProductionLocation`
Sub Class Of	http://w3id.org/CEON/ontology/location/Location ^C
In Domain Of	countryOfProduction ^{dp} productionSite ^{dp}
Restriction	http://w3id.org/CEON/ontology/location/hasCity ^{dp} *max* 1 ProductionLocation ^C http://w3id.org/CEON/ontology/location/hasPostalCode ^{dp} *max* 1 ProductionLocation ^C http://w3id.org/CEON/ontology/location/hasStreetAddress ^{dp} *max* 1 ProductionLocation ^C countryOfProduction ^{dp} *max* 1 ProductionLocation ^C productionSite ^{dp} *max* 1 ProductionLocation ^C

Reach Compliance ^C

IRI	`http://w3id.org/CEON/ontology/product/REACHCompliance`
Sub Class Of	Compliance ^C
Equivalentclass	complianceWith ^{op} value REACH ^C

Regulation ^C

IRI	`http://w3id.org/CEON/ontology/product/Regulation`
Named Individuals	REACH ⁿⁱ RoHS ⁿⁱ

Ro Hs Compliance ^C

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

Sub Class Of Compliance ^C

Equivalentclass complianceWith ^{op} value RoHS ^C

Solution ^C

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

Is Defined By ISO 59004:2024 - 3.2.1 solution

Super Class Of Product ^C

Supplier Location ^C

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

Sub Class Of http://w3id.org/CEON/ontology/location/Location ^C

Batch Of Objects ^C

IRI `http://w3id.org/CEON/ontology/resourceODP/BatchOfObjects`

In Domain Of batchOfProduct ^{op}

Restriction batchOfProduct ^{op} *exactly* 1 resourceODP:BatchOfObjects ^C

Matter ^C

IRI `http://w3id.org/CEON/ontology/resourceODP/Matter`

In Range Of associatedWithMatter ^{op}

Physical Object ^C

IRI `http://w3id.org/CEON/ontology/resourceODP/PhysicalObject`

Super Class Of Item ^C

Object Properties

has location ^{op}

IRI	http://w3id.org/CEON/ontology/location/hasLocation

Super Property Of

- hasAssemblyLocation ^{op}
- hasManufacturerLocation ^{op}
- hasOriginLocation ^{op}

associated with matter ^{op}

IRI	http://w3id.org/CEON/ontology/product/associatedWithMatter
Domain	MatterComposition ^c
Range	resourceODP:Matter ^c

associated with product model ^{op}

IRI	http://w3id.org/CEON/ontology/product/associatedWithProductModel
Domain	ProductComposition ^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 product ^{op}

IRI	http://w3id.org/CEON/ontology/product/batchOfProduct
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 Composition^c

Range resourceODP:Matter^c *or* Product^c *or* Item^c

has assembly location ^{op}

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

Sub Property Of http://w3id.org/CEON/ontology/location/hasLocation^{op}

Domain Item^c *or* Product^c

Range AssemblyLocation^c

has compliance ^{op}

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

Domain actorODP:Actor^c *or* Product^c *or* Item^c *or* http://w3id.org/CEON/ontology/processODP/Process^c

Range Compliance^c

has composition ^{op}

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

Domain resourceODP:PhysicalObject^c *or* Product^c

Range Composition^c

has manufacturer location ^{op}

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

Sub Property Of http://w3id.org/CEON/ontology/location/hasLocation^{op}

Domain Product^c *or* Item^c

Range ManufactureLocation^c

has origin location ^{op}

IRI	http://w3id.org/CEON/ontology/product/hasOriginLocation
Sub Property Of	http://w3id.org/CEON/ontology/location/hasLocation ^{op}
Domain	Item ^c *or* Product ^c
Range	OriginLocation ^c

has product component ^{op}

IRI	http://w3id.org/CEON/ontology/product/hasProductComponent
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
Domain	Item ^c
Range	Product ^c

Datatype Properties

has city ^{dp}

IRI	http://w3id.org/CEON/ontology/location/hasCity
Sub Property Of	topDataProperty ^{dp}

has country ^{dp}

IRI	http://w3id.org/CEON/ontology/location/hasCountry
Super Property Of	- countryOfAssembly ^{dp} - countryOfManufacture ^{dp} - countryOfOrigin ^{dp} - countryOfProduction ^{dp}

has postal code ^{dp}

IRI   http://w3id.org/CEON/ontology/location/hasPostalCode

Sub Property Of   topDataProperty ^{dp}

has street address ^{dp}

IRI   http://w3id.org/CEON/ontology/location/hasStreetAddress

Sub Property Of   topDataProperty ^{dp}

composition quantity ^{dp}

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

Domain   Composition ^c

Range   xsd:double

country of assembly ^{dp}

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

Sub Property Of   http://w3id.org/CEON/ontology/location/hasCountry ^{dp}

Domain   AssemblyLocation ^c

Range   xsd:string

country of manufacture ^{dp}

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

Sub Property Of   http://w3id.org/CEON/ontology/location/hasCountry ^{dp}

Domain   ManufactureLocation ^c

Range   xsd:string

country of origin ^{dp}

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

Sub Property Of   http://w3id.org/CEON/ontology/location/hasCountry ^{dp}

Domain   OriginLocation ^c

Range   xsd:string

country of production ^{dp}

IRI	http://w3id.org/CEON/ontology/product/countryOfProduction
Sub Property Of	http://w3id.org/CEON/ontology/location/hasCountry ^{dp}
Domain	ProductionLocation ^c
Range	xsd:string

has brand ^{dp}

IRI	http://w3id.org/CEON/ontology/product/hasBrand
Range	xsd:string

has certificate ^{dp}

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

has global trade item number ^{dp}

IRI	http://w3id.org/CEON/ontology/product/hasGlobalTradeItemNumber
Range	xsd:string

has product name ^{dp}

IRI	http://w3id.org/CEON/ontology/product/hasProductName
Range	xsd:string

production site ^{dp}

IRI	http://w3id.org/CEON/ontology/product/productionSite
Domain	ProductionLocation ^c
Range	xsd:string

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