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

Creator

Huanyu Li

Contributor

Eva Blomqvist

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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, C1-4, C2-5, C5-3, C11-2, C12-1, C13-3, C13-4, C13-9, E1-4, E1-5, E1-15, E2-1, E3-2, E3-5, E4-1, E4-2, E4-8, E4-9, E6-7, T4-3, T4-5, T6-1, T8-3, T9-2.

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   Product ^C *or* resourceODP:Matter ^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   Product ^C *or* Item ^C

Range   AssemblyLocation ^C

has compliance ^{op}

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

Domain   Product ^C *or* actorODP:Actor ^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   Product ^C *or* resourceODP:PhysicalObject ^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	Product ^c *or* Item ^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