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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Date Created

2025-03-19

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Version Iri

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

Version Info

0.5

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

Assembly Location ^C

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

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
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

Manufacture Location [c]

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

Origin Location [c]

IRI	http://w3id.org/CEON/ontology/product/OriginLocation
Sub Class Of	http://w3id.org/CEON/ontology/location/Location
In Domain Of	countryOfOrigin [dp]
In Range Of	hasOriginLocation [op]
Restriction	http://w3id.org/CEON/ontology/location/hasCity *max* 1 OriginLocation [c]
	http://w3id.org/CEON/ontology/location/hasPostalCode *max* 1 OriginLocation [c]
	http://w3id.org/CEON/ontology/location/hasStreetAddress *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
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 resourceODP:Resource
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 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`
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

Production Location ^C

IRI	http://w3id.org/CEON/ontology/product/ProductionLocation
Sub Class Of	http://w3id.org/CEON/ontology/location/Location
In Domain Of	countryOfProduction ^{dp} productionSiteName ^{dp}
Restriction	http://w3id.org/CEON/ontology/location/hasCity *max* 1 ProductionLocation ^C http://w3id.org/CEON/ontology/location/hasPostalCode *max* 1 ProductionLocation ^C http://w3id.org/CEON/ontology/location/hasStreetAddress *max* 1 ProductionLocation ^C countryOfProduction ^{dp} *max* 1 ProductionLocation ^C productionSiteName ^{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
Description	Product or service, or a combination thereof, that fulfils a need of an interested party.
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

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 assembly location ^{op}

IRI	http://w3id.org/CEON/ontology/product/hasAssemblyLocation
Sub Property Of	http://w3id.org/CEON/ontology/location/hasLocation
Domain	Product^C *or* Item^C
Range	AssemblyLocation^C

has compliance ^{op}

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

has manufacturer location ^{op}

IRI	http://w3id.org/CEON/ontology/product/hasManufacturerLocation
Sub Property Of	http://w3id.org/CEON/ontology/location/hasLocation
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
Domain	Item^C *or* Product^C
Range	OriginLocation^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	http://w3id.org/CEON/ontology/location/hasCountry
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
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
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
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/hasGlobalTradeItemNu mber

Range   xsd:string

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has product name ^{dp}

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

Range   xsd:string

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production site name ^{dp}

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

Domain   ProductionLocation ^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

---

creator ^{ap}

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

---

description ^{ap}

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

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license ^{ap}

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

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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