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, 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

 Location ^c

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

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

In Domain Of countryOfAssembly dp

In Range Of has Assembly Location op

Restriction

http://w3id.org/CEON/ontology/location/hasCity_dp max 1 AssemblyLocation_c

http://w3id.org/CEON/ontology/location/hasPostalCode dp max 1

<u>AssemblyLocation</u>^c

http://w3id.org/CEON/ontology/location/hasStreetAddress dp max 1

<u>AssemblyLocation</u>^C

countryOfAssembly dp max 1 AssemblyLocation c

Compliance ^C

In Domain Of

complianceWith^{op} hasCertificate^{dp}

In Range Of hasCompliance op

Super Class Of

ISOCompliance^C
REACHCompliance^C
RoHSCompliance^C

Composition ^C

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

Sub Class Of Compliance C

Item^c

Sub Class Of resourceODP:PhysicalObject^C

In Domain Of

 $\underline{hasProductObjectComponent}^{op}$

modelledBy op

In Range Of

 $\underline{associatedWithProductObject}^{op}\\ \underline{hasProductObjectComponent}^{op}$

Restriction modelledBy^{op} exactly 1 Item^c

Manufacture Location ^C

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/hasCitydp max 1 ManufactureLocationC

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 $associated With Matter \\ ^{op}$

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/hasCitydp max 1 OriginLocationC http://w3id.org/CEON/ontology/location/hasPostalCode dp max 1 OriginLocation

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

resourceODP:Resource

In Domain Of <u>hasProductComponent</u>^{op}

In Range Of

associatedWithProductModel op

batchOfProductop

hasProductComponent op

modelledBy op

Restriction

hasComposition op some Product c hasComposition op some Product c hasAssemblyLocation only Product only Product on the hasAssemblyLocation only Product on the hasAssemblyLocation on the hasAssemb hasManufacturerLocation op only Product^c

hasOriginLocation op only Product c

Product Composition^C

Sub Class Of Composition^C

In Domain Of associatedWithProductModel op

Restriction associatedWithProductModel op exactly 1 ProductComposition of the ProductComposition

Product Object Composition ^C

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

tion

Sub Class Of Composition^C

In Domain Of associatedWithProductObject^{op}

Restriction associatedWithProductObject^{Op} exactly 1 ProductObjectComposition^C

Production Location ^C

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

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

<u>ProductionLocation</u>^C

http://w3id.org/CEON/ontology/location/hasStreetAddress^{dp} max 1

<u>ProductionLocation</u>^C

countryOfProduction dp max 1 ProductionLocation productionSite dp max 1 ProductionLocation productionSite dp max 1 ProductionLocation production p

Reach Compliance^C

Sub Class Of Compliance^C

Equivalentclass complianceWith op value REACHC

Regulation ^C

Named Individuals

REACHⁿⁱ RoHSⁿⁱ Ro Hs Compliance ^C

Sub Class Of Compliance^C

Equivalentclass complianceWith op value RoHSC

Solution ^C

Is Defined By ISO 59004:2024 - 3.2.1 solution

Super Class Of Product^C

Supplier Location ^C

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

Batch Of Objects ^C

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

In Domain Of <u>batchOfProduct</u>op

Restriction <u>batchOfProduct</u>^{op} exactly 1 <u>resourceODP:BatchOfObjects</u>^c

Matter^c

In Range Of <u>associatedWithMatter op</u>

Physical Object^C

Super Class Of Item^C

Object Properties

has location op

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

Super Property Of

- hasAssemblyLocation op
- <u>hasManufacturerLocation</u> op
- hasOriginLocation op

associated with matter op

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

Domain <u>MatterComposition</u>^c

Range resourceODP:Matter^C

associated with product model op

tModel

Domain ProductComposition^C

Range Product^c

associated with product object op

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

t0bject

Sub Property Of topObjectProperty op

Domain ProductObjectComposition^C

Range Item^c

batch of product op

Domain resourceODP:BatchOfObjects^C

Range Product^C

compliance with op

Domain Compliance C

composition of op

Domain Composition^C

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

has assembly location op

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

Domain <u>Item^c or Product^c</u>

Range <u>AssemblyLocation</u>^C

has compliance op

<u>Domain</u> <u>Item^c or actorODP:Actor^c or Product^c or</u>

http://w3id.org/CEON/ontology/processODP/Process^C

Range Compliance^C

has composition op

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

<u>Domain</u> <u>Product^c or resourceODP:PhysicalObject^c</u>

Range Composition^C

has manufacturer location op

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

ion

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

Domain <u>Item</u>^c or <u>Product</u>^c

Range <u>ManufactureLocation</u>^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 <u>Item^c or Product^c</u>

Range OriginLocation^C

has product component op

Domain Product^C

Range Product^c

has product object component op

onent

Domain <u>Item</u>^C

Range <u>Item</u>^C

modelled by op

Domain Item^c

Range Product^C

Datatype Properties

has city dp

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

Sub Property Of topDataProperty dp

has street address dp

Sub Property Of topDataProperty dp

composition quantity dp

Domain Composition^C

Range xsd:double

country of assembly dp

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 <u>ManufactureLocation</u>^c

Range xsd:string

country of origin dp

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

Domain OriginLocation^C

Range xsd:string

country of production dp

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

<u>ProductionLocation</u>^C

Range xsd:string

has brand ^{dp}

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

Range <u>xsd:string</u>

has certificate dp

Domain Compliance^C

has global trade item number dp

mber

Range xsd:string

has product name ^{dp}

Range <u>xsd:string</u>

production site dp

Domain ProductionLocation C

Range xsd:string

Namespaces

http://w2id.org/

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

