Circular Economy Ontology Network (CEON) - Material Module

Metadata

IRI

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

Title

Circular Economy Ontology Network (CEON) - Material Module

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Version Iri

http://w3id.org/CEON/ontology/material/0.3/

Version Info

0.3

Preferred Namespace Prefix

material

Preferred Namespace Uri

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

Description

The Material 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-ResourceType-4, C3-3, E1-3, E2-4, E5-2, T1-1, T10-2.

In addition to requirements covered by imported ODPs, covers the following requirements from Onto-DESIDE D3.2: CE5-2, C3-3, E1-3, E2-4, E5-2, T1-1, T10-2.

Classes

Aluminum ^C

IRI	`http://w3id.org/CEON/ontology/material/Aluminum`
Sub Class Of	ChemicalElement ^C

Boron ^C

IRI	`http://w3id.org/CEON/ontology/material/Boron`
Sub Class Of	ChemicalElement ^C

Celulose ^C

IRI	http://w3id.org/CEON/ontology/material/Celulose
Sub Class Of	ChemicalElement ^C

Chemical Element ^C

IRI	http://w3id.org/CEON/ontology/material/ChemicalElement
Sub Class Of	Chemical substance ^C
Super Class Of	Aluminum ^C Boron ^C Celulose ^C Chromium ^C Copper ^C Dysprosium ^C Iron ^C Magnesium ^C Manganese ^C Neodymium ^C Nickel ^C Niobium ^C Silicon ^C Titanium ^C Zinc ^C

Chemical entity ^C

IRI	http://w3id.org/CEON/ontology/material/ChemicalEntity
Description	A chemical entity is an abstraction of entities that can compose matter. For instance, a chemical entity can be a molecular entity or a chemical substance.
Sub Class Of	resourceODP:Matter ^C
In Range Of	has chemical entity ^{op}
Super Class Of	Chemical substance ^C Molecular entity ^C

Chemical substance ^C

IRI	http://w3id.org/CEON/ontology/material/ChemicalSubstance
Description	A chemical substance is made up of a collection of molecular entities.
Sub Class Of	Chemical entity ^C
Super Class Of	ChemicalElement ^C

Chromium [C]

IRI http://w3id.org/CEON/ontology/material/Chromium

Sub Class Of ChemicalElement [C]

Copper [C]

IRI http://w3id.org/CEON/ontology/material/Copper

Sub Class Of ChemicalElement [C]

Dysprosium [C]

IRI http://w3id.org/CEON/ontology/material/Dysprosium

Sub Class Of ChemicalElement [C]

Iron [C]

IRI http://w3id.org/CEON/ontology/material/Iron

Sub Class Of ChemicalElement [C]

Magnesium [C]

IRI http://w3id.org/CEON/ontology/material/Magnesium

Sub Class Of ChemicalElement [C]

Manganese [C]

IRI http://w3id.org/CEON/ontology/material/Manganese

Sub Class Of ChemicalElement [C]

Material [C]

IRI http://w3id.org/CEON/ontology/material/Material

Description Material as a sub-concept of Matter, can be a substance or a collection of substance which a physical object is composed of.

Sub Class Of resourceODP:Matter [C]

In Domain Of has chemical entity [op]
has material component [op]

Restriction has chemical entity [op] some Material [C]

Material component ^C

IRI	`http://w3id.org/CEON/ontology/material/MaterialComponent`
Description	A material component is a part of a material.
Sub Class Of	resourceODP:Constituent ^C
In Range Of	has material component ^{op}

Molecular entity ^C

IRI	`http://w3id.org/CEON/ontology/material/MolecularEntity`
Description	A molecular entity means a singular/distinguishable entity. It can be for instance, atom, ion.
Sub Class Of	Chemical entity ^C

Neodymium ^C

IRI	`http://w3id.org/CEON/ontology/material/Neodymium`
Sub Class Of	ChemicalElement ^C

Nickel ^C

IRI	`http://w3id.org/CEON/ontology/material/Nickel`
Sub Class Of	ChemicalElement ^C

Niobium ^C

IRI	`http://w3id.org/CEON/ontology/material/Niobium`
Sub Class Of	ChemicalElement ^C

Silicon ^C

IRI	`http://w3id.org/CEON/ontology/material/Silicon`
Sub Class Of	ChemicalElement ^C

Titanium ^C

IRI	`http://w3id.org/CEON/ontology/material/Titanium`
Sub Class Of	ChemicalElement ^C

Zinc ^C

IRI	`http://w3id.org/CEON/ontology/material/Zinc`
Sub Class Of	ChemicalElement ^C

Constituent ^C

IRI	`http://w3id.org/CEON/ontology/resourceODP/Constituent`
Super Class Of	Material component ^C

Matter ^C

IRI	`http://w3id.org/CEON/ontology/resourceODP/Matter`
Super Class Of	Chemical entity ^C Material ^C

Object Properties

has chemical entity ^{op}

IRI	`http://w3id.org/CEON/ontology/material/hasChemicalEntity`
Description	hasChemicalEntity intends to represent that a material can have a collection of chemical entities.
Domain	Material ^C
Range	Chemical entity ^C

has material component ^{op}

IRI	`http://w3id.org/CEON/ontology/material/hasMaterialComponent`
Description	hasMaterialComponent intends to represent that a material can have a collection of components.
Domain	Material ^C
Range	Material component ^C

Datatype Properties

Anonymous Formula ^{dp}

IRI   http://w3id.org/CEON/ontology/material/AnonymousFormula

Description

AnonymousFormula represents that a molecular entity has the anonymous formula in a string.

Descriptive Formula ^{dp}

IRI   http://w3id.org/CEON/ontology/material/DescriptiveFormula

Description

DescriptiveFormula represents that a molecular entity has the descriptive formula in a string.

Hill Formula ^{dp}

IRI   http://w3id.org/CEON/ontology/material/HillFormula

Description

HillFormula represents that a composition has the hill formula in a string.

Reduced Chemical Formula ^{dp}

IRI   http://w3id.org/CEON/ontology/material/ReducedChemicalFormula

Description

ReducedChemicalFormula represents that a molecular entity has the reduced chemical formula in a string.

Annotation Properties

description ^{ap}

IRI   http://purl.org/dc/elements/1.1/description

Namespaces

:

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

dc

http://purl.org/dc/elements/1.1/

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/
```

Legend

c	Classes
op	Object Properties
dp	Datatype Properties
ap	Annotation Properties