

Circular Economy Ontology Network (CEON) - Material Module

Metadata

IRI

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

Title

Circular Economy Ontology Network (CEON) - Material Module

Creator

Huanyu Li

Contributor

Eva Blomqvist

Mikael Lindecrantz

Robin Keskisärkkä

Date Created

2023-03-16

License

<https://creativecommons.org/licenses/by/4.0/>

Version Iri

<http://w3id.org/CEON/ontology/material/0.1/>

Version Info

0.1

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.

Classes

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/CE0N/ontology/material/ChemicalSubstance
Description	A chemical substance is made up of a collection of molecular entities.
Sub Class Of	Chemical entity^C

Material^C

IRI	http://w3id.org/CE0N/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/CE0N/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/CE0N/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

Constituent^C

IRI	http://w3id.org/CE0N/ontology/resourceODP/Constituent
Super Class Of	Material component^C

Matter^c

IRI <http://w3id.org/CE0N/ontology/resource0DP/Matter>

Super Class Of
[Chemical entity^c](#)
[Material^c](#)

Object Properties

has chemical entity^{op}

IRI <http://w3id.org/CE0N/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/CE0N/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/CE0N/ontology/material/AnonymousFormula>

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

Descriptive Formula^{dp}

IRI <http://w3id.org/CE0N/ontology/material/DescriptiveFormula>

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

Hill Formula^{dp}

IRI	http://w3id.org/CE0N/ontology/material/HillFormula
Description	HillFormula represents that a composition has the hill formula in a string.

Reduced Chemical Formula^{dp}

IRI	http://w3id.org/CE0N/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/CE0N/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/CE0N/ontology/resourceODP/>

vann

<http://purl.org/vocab/vann/>

Legend

c	Classes
op	Object Properties
dp	Datatype Properties
ap	Annotation Properties