

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, E1-1, E1-3, E2-4, E5-2, T1-1, T10-2.

Classes

ChemicalEntity^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 [hasChemicalEntity^{op}](#)

Super Class Of
[ChemicalSubstance^C](#)
[MolecularEntity^C](#)

ChemicalSubstance^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 [ChemicalEntity^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
[hasChemicalEntity^{op}](#)
[hasMaterialComponent^{op}](#)

Restriction [hasChemicalEntity^{op}](#) some [Material^C](#)

MaterialComponent^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 [hasMaterialComponent^{op}](#)

MolecularEntity^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 [ChemicalEntity^c](#)

Constituent^c

IRI <http://w3id.org/CEON/ontology/resourceODP/Constituent>

Super Class Of [MaterialComponent^c](#)

Matter^c

IRI <http://w3id.org/CEON/ontology/resourceODP/Matter>

Super Class Of [ChemicalEntity^c](#)
[Material^c](#)

Physical Object^c

IRI <http://w3id.org/CEON/ontology/resourceODP/PhysicalObject>

Resource^c

IRI <http://w3id.org/CEON/ontology/resourceODP/Resource>

Object Properties

hasChemicalEntity^{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	ChemicalEntity ^c

hasMaterialComponent^{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	MaterialComponent ^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

op

dp

ap

Classes

Object Properties

Datatype Properties

Annotation Properties