

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/0.1/>

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

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|---------------------|---|
| 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}

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|--------------------|---|
| 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 |