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/0.2/

Version Info

0.2

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

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

http://www.w3.org/2000/01/rdf-schema#

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

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