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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Date Created

2023-03-16

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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