Circular Economy Ontology Network (CEON) - Textile Module

Metadata

IRI

http://w3id.org/CEON/demo/textile/

Title

Circular Economy Ontology Network (CEON) - Textile Module

Creator

Eva Blomqvist

Contributor

Huanyu Li

Mikael Lindecrantz

Robin Keskisärkkä

License

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

Version Iri

http://w3id.org/CEON/demo/textile/0.1/

Version Info

0.1

Preferred Namespace Uri

http://w3id.org/CEON/demo/textile/

Description

The Textile module of CEON (Circular Economy Ontology Network).

Classes

Regulation ^C	
IRI	http://w3id.org/CEON/ontology/textile/Regulation
Origin ^c	
IRI	http://w3id.org/CEON/ontology/textile/Origin
In Range Of	<u>hasOrigin^{op}</u>
Named Individuals	original ⁿⁱ recycled ⁿⁱ reused ⁿⁱ

Amount Interval Value c

IRI http://w3id.org/CEON/ontology/textile/AmountIntervalValue

Super Class Of

<u>LeakageAmountInterval</u>^C

PostConsumerRecycledContentInterval^C
PreConsumerRecycledContentInterval^C
RecyclingAtSameLevelAmountInterval^C

Amount Threshold^C

IRI http://w3id.org/CEON/ontology/textile/AmountThreshold

In Range Of disclosure Value op

Named Individuals

0.01percⁿⁱ 0.1percⁿⁱ 1percⁿⁱ

Availability ^C

Named Individuals

<u>public</u>ni

<u>secrecyAgreement</u>ⁿⁱ

Batch Of Textile Objects C

S

Sub Class Of http://w3id.org/CEON/ontology/resourceODP/BatchOfObjects

Restriction <u>hasColor^{op} some BatchOfTextileObjects^c</u>

Chemical Finishing ^C

IRI http://w3id.org/CEON/ontology/textile/ChemicalFinishing

Sub Class Of <u>TextileFinishing</u>^C

Named Individuals

anti-pilling ni

antiStaticFinishing ni antibacterialFinishingⁿⁱ

coating ni

<u>coatingAcrylic</u>ⁿⁱ

<u>coatingPUⁿⁱ</u> <u>coatingPVC</u>ⁿⁱ

<u>creaseResistance</u>ⁿⁱ enzymeFinishingⁿⁱ

flameRetardant ni

mattingAgentⁿⁱ

millWashing ni

millingAgent ni

naturalOiling ni

<u>opticalBrighteners</u>ⁿⁱ

permanentPressⁿⁱ

<u>prepareForDyeing</u>ⁿⁱ

resins ni <u>silicones</u>ⁿⁱ

<u>soilRelease</u>ni

stainResistanceⁿⁱ

Color^C

IRI http://w3id.org/CEON/ontology/textile/Color

In Range Of hasColor op

Dye ^c

IRI http://w3id.org/CEON/ontology/textile/Dye

Sub Class Of <u>TextileProperty</u>^C

Named Individuals

<u>acidDye</u>ni

<u>analineDye</u>ni

<u>azoDye</u>ni

<u>basicDye</u>ni

chromeDye ni

<u>directDye</u>ni

<u>disperseDye</u>ni

mordantDye ni

<u>narturalDye</u>ni

<u>pigmentBiosynthetic</u>ⁿⁱ

<u>pigmentNatural</u>ⁿⁱ

<u>pigmentSynthetic</u>ⁿⁱ

<u>reactiveDye</u>ⁿⁱ

<u>vatDye</u>ni

Dyeing Process^C

Sub Class Of TextileManufacturingProcess^C

In Range Of Dye Method op

Leakage Amount Interval ^c

Sub Class Of AmountIntervalValue^C

Named Individuals

_10to25Percni

_1to10Percⁿⁱ

_25to50Percni

50-75Percⁿⁱ 75to95Percⁿⁱ

<u>above95Percⁿⁱ</u>

lessThan1Percni

Mechanical Finishing ^C

Sub Class Of TextileFinishing^C

Named Individuals

<u>calendering</u>ⁿⁱ

embossing ni

<u>permanentCreasing</u>ⁿⁱ <u>pre-shrinking</u>ⁿⁱ

<u>pre-shrinking</u>

<u>sueding</u>ⁿⁱ

Post Consumer Recycled Content Interval^C

IRI http://w3id.org/CEON/ontology/textile/PostConsumerRecycled

ContentInterval

Sub Class Of AmountIntervalValue^C

Named Individuals

<u>Opercⁿⁱ</u>

_0to10Percni

_10to25Percⁿⁱ

_25to50Percⁿⁱ

50-75Percⁿⁱ

_75to95Percⁿⁱ

above95Percⁿⁱ

Pre Consumer Recycled Content Interval^C

ontentInterval

Sub Class Of AmountIntervalValue^C

Named Individuals

Opercni
Oto10Percni
10to25Percni
25to50Percni
50-75Percni
75to95Percni
above95Percni

Print^C

IRI http://w3id.org/CEON/ontology/textile/Print

Sub Class Of http://w3id.org/CEON/ontology/resourceODP/Constituent

Print Stuff^C

IRI http://w3id.org/CEON/ontology/textile/PrintStuff

Sub Class Of http://w3id.org/CEON/ontology/resourceODP/Matter

Named Individuals

acidDyeⁿⁱ
analineDyeⁿⁱ
azoDyeⁿⁱ
basicDyeⁿⁱ
chromeDyeⁿⁱ
directDyeⁿⁱ
disperseDyeⁿⁱ
mordantDyeⁿⁱ
narturalDyeⁿⁱ
pigmentBiosyntheticⁿⁱ
pigmentNaturalⁿⁱ

pigmentBiosynthetic pigmentNaturalⁿⁱ pigmentSyntheticⁿⁱ reactiveDyeⁿⁱ sulfurDyeⁿⁱ vatDyeⁿⁱ

Printing Process^C

Sub Class Of TextileManufacturingProcess^C

In Range Of Print Method op

Named Individuals

batikPrintedⁿⁱ
digitalPrintedⁿⁱ
handPaintedⁿⁱ
inkjetPrintedⁿⁱ
rollerPrintedⁿⁱ
screenPrintedⁿⁱ
transferPrintedⁿⁱ

Recycling At Same Level Amount Interval^C

AmountInterval

Sub Class Of AmountIntervalValue^C

Named Individuals

Opercⁿⁱ
Oto10Percⁿⁱ
10to25Percⁿⁱ
25to50Percⁿⁱ
50-75Percⁿⁱ

75to95Percⁿⁱ 95to99Percⁿⁱ above99Percⁿⁱ

Textile Chemical Substance Threshold Statement C

IRI http://w3id.org/CEON/ontology/textile/TextileChemicalSubst

anceThresholdStatement

Sub Class Of TextileDataSheetStatement^C

In Domain Of disclosure Value op

Textile Data Sheet^c

Sub Class Of http://w3id.org/CEON/ontology/datasheet/DataSheet

Restriction hasProperty^{op} some TextileDataSheet^c

http://w3id.org/CEON/ontology/resourceODP/isAbout_some_TextileDataSheet^C

Textile Data Sheet Issuing Statement^c

IRI http://w3id.org/CEON/ontology/textile/TextileDataSheetIssu

ingStatement

Sub Class Of TextileDataSheetStatement^C

Textile Data Sheet Statement C

ement

Sub Class Of http://w3id.org/CEON/ontology/provenance/Statement

Super Class Of

<u>TextileChemicalSubstanceThresholdStatement</u>^C

TextileDataSheetIssuingStatement^C
TextileDataSheetUpdateStatement^C
TextileManufacturerStatement^C
TextileManufacturingSiteStatement^C
TextileProductCertification^C
TextileProductComponentRelation^C

<u>TextileProductCompositionDisclosureStatement</u>^C

<u>TextileProductCompositionOfConcern</u>^C <u>TextileProductCompositionWeightFraction</u>^C

<u>TextileProductDataSheet</u>^C

TextileProductDesignForDisassembly^C
TextileProductDesignForRecycling^C
TextileProductDesignForRefurbishment^C
TextileProductDesignForRemanufacturing^C
TextileProductDesignForReuseMethod^C
TextileProductDesignedForBetterUse^C
TextileProductManufacturingMethod^C
TextileProductMatterCompositionRelation^C
TextileProductRecycledContent^C

<u>TextileProductRenewableContet</u>^c

Textile Data Sheet Update Statement ^c

teStatement

Sub Class Of <u>TextileDataSheetStatement</u>^C

Textile Finishing ^C

Sub Class Of TextileProperty^C

In Range Of hasFinishing op

Super Class Of

<u>ChemicalFinishing</u>^c MechanicalFinishing^c Textile Manufacturer Statement ^C

IRI http://w3id.org/CEON/ontology/textile/TextileManufacturerS

tatement

Sub Class Of TextileDataSheetStatement^C

Textile Manufacturing Process^C

Process

In Range Of hasTextileManufacturingProcess op

Super Class Of

<u>DyeingProcess^C</u>
<u>PrintingProcess^C</u>

Named Individuals

directDyedⁿⁱ
dopeDyedⁿⁱ
pieceDyedⁿⁱ
topDyedⁿⁱ
undyedⁿⁱ
yarnDyedⁿⁱ

Textile Manufacturing Site Statement ^c

SiteStatement

Sub Class Of TextileDataSheetStatement^C

Textile Product^C

Sub Class Of http://w3id.org/CEON/ontology/product/Product

In Domain Of hasTextileProductType op

Restriction

<u>hasColor</u>^{op} some <u>TextileProduct</u>^c

hasTextileProductType^{op} some TextileProduct^c

Textile Product Certification ^C

ication

Sub Class Of TextileDataSheetStatement^C

Textile Product Component Relation ^c

IRI http://w3id.org/CEON/ontology/textile/TextileProductCompon

entRelation

Sub Class Of http://qudt.org/schema/qudt/Quantity

<u>TextileDataSheetStatement</u>^c

http://w3id.org/CEON/ontology/actorODP/ResourceParticipation http://w3id.org/CEON/ontology/actorODP/participatingObject_some http://w3id.org/CEON/ontology/resourceODP/Constituent^c and

http://qudt.org/schema/qudt/hasUnit_some http://qudt.org/schema/qudt/Unit_and http://w3id.org/CEON/ontology/actorODP/participatingSubject_some

TextileProduct_and http://qudt.org/schema/qudt/numericalValue_some

nbc2f39d4873a4163b9b6b0cccd10e278b150

Textile Product Composition Disclosure Statement^C

itionDisclosureStatement

Sub Class Of TextileDataSheetStatement^C

In Range Of chemicalSubstanceDisclosureThreshold op

Textile Product Composition Of Concern^c

itionOfConcern

Sub Class Of TextileDataSheetStatement^C

Textile Product Composition Weight Fraction ^c

itionWeightFraction

Sub Class Of TextileDataSheetStatement^C

Textile Product Data Sheet^c

eet

Sub Class Of TextileDataSheetStatement^C

Textile Product Design For Disassembly ^C

IRI http://w3id.org/CEON/ontology/textile/TextileProductDesign

ForDisassembly

Sub Class Of TextileDataSheetStatement^C

Super Class Of

<u>TextileProductDesignToBeCleanlyRemoved</u>^C

<u>TextileProductDesignToBeDismantled</u>^C

Textile Product Design For Recycling c

IRI http://w3id.org/CEON/ontology/textile/TextileProductDesign

ForRecycling

Sub Class Of TextileDataSheetStatement^C

In Range Of desinged for recycling at the same level of quality op

Restriction recyclingAtSameQualityRange^{op} some TextileProductDesignForRecycling^c

Textile Product Design For Refurbishment^c

IRI http://w3id.org/CEON/ontology/textile/TextileProductDesign

ForRefurbishment

Sub Class Of TextileDataSheetStatement^C

Textile Product Design For Remanufacturing ^C

ForRemanufacturing

Sub Class Of TextileDataSheetStatement^C

Textile Product Design For Reuse Method C

IRI http://w3id.org/CEON/ontology/textile/TextileProductDesign

For Reuse Method

Sub Class Of <u>TextileDataSheetStatement</u>^C

Textile Product Design To Be Cleanly Removed C

IRI http://w3id.org/CEON/ontology/textile/TextileProductDesign

ToBeCleanlyRemoved

Sub Class Of TextileProductDesignForDisassembly^C

Textile Product Design To Be Dismantled C

ToBeDismantled

Sub Class Of TextileProductDesignForDisassembly^C

Textile Product Designed For Better Use c

 ${\tt edForBetterUse}$

Sub Class Of TextileDataSheetStatement^C

Textile Product Manufacturing Method^C

IRI http://w3id.org/CEON/ontology/textile/TextileProductManufa

cturingMethod

Sub Class Of TextileDataSheetStatement C

Textile Product Matter Composition Relation c

CompositionRelation

Sub Class Of http://qudt.org/schema/qudt/Quantity

<u>TextileDataSheetStatement</u>^C

http://w3id.org/CEON/ontology/actorODP/ResourceParticipation http://w3id.org/CEON/ontology/actorODP/participatingSubject_some

nbc2f39d4873a4163b9b6b0cccd10e278b26^c and

http://w3id.org/CEON/ontology/actorODP/participatingObject_some

http://w3id.org/CEON/ontology/resourceODP/Matter^C

Textile Product Object^C

Sub Class Of http://w3id.org/CEON/ontology/product/ProductObject

Restriction hasColor^{op} some TextileProductObject^C

Textile Product Recycled Content^c

edContent

Sub Class Of http://qudt.org/schema/qudt/Quantity

<u>TextileDataSheetStatement</u>^C

http://w3id.org/CEON/ontology/actorODP/ResourceParticipation

http://qudt.org/schema/qudt/numericalValue_some nbc2f39d4873a4163b9b6b0cccd10e278b39^c and

http://w3id.org/CEON/ontology/provenance/statementAbout_some

nbc2f39d4873a4163b9b6b0cccd10e278b35^c and

http://qudt.org/schema/qudt/hasUnit_some http://qudt.org/schema/qudt/UnitC

Textile Product Renewable Contet^C

bleContet

Sub Class Of TextileDataSheetStatement^C

Textile Product Type C

In Range Of hasTextileProductType op

Textile Property^C

Super Class Of

<u>Dye</u>^c

TextileFinishing^C
WaterProperty^C

Textile Recycling Process^c

IRI http://w3id.org/CEON/ontology/textile/TextileRecyclingProc

ess

In Range Of textileProductDesignForRecycling op

Named Individuals

biodigestionⁿⁱ

biosphereCascading ni homeComposting ni incineration ni

industrialComposting ni

Validation ^c

Named Individuals certified ni

validatedByThirdPartyⁿⁱ

Water Property ^C

Sub Class Of <u>TextileProperty</u>^C

In Range Of Water Property op

Named Individuals

Water repellentⁿⁱ
Water resistantⁿⁱ
Waterproofⁿⁱ

Brand Of Resource C

Sub Class Of http://w3id.org/CEON/ontology/actorODP/ResourceRelation

Equivalentclass http://w3id.org/CEON/ontology/actorODP/participantRole_value http://w3id.org/cEON/ontology/actorODP/participantRole_value http://w3id.org/cEON/ontology/actorODP/participantRole_value http://w3id.org/cEON/ontology/actorODP/participantRole_value http://w3id.org/cEON/ontology/actorODP/participantRole_value https://waid.org/cEON/ontology/actorODP/participantRole_value https://waid.org/cEON/ontology/actorODP/participantRole_value https://waid.org/cEON/ontology/actorODP/participantRole_value https://waid.org/cEON/ontology/actorODP/participantRole_value https://waid.org/cEON/ontology/actorODP/participantRole_value https://waid.org/ceo.pdf https://waid.org/ceo.pdf <a href="ht

http://w3id.org/CEON/ontology/actorODP/ResourceRelation^C

Reach Compliance C

Sub Class Of http://w3id.org/CEON/ontology/product/Compliance

Equivalentclass http://w3id.org/CEON/ontology/product/complianceWith-value REACH^C

Object Properties

anticipated leakage during use op

ringUse

Description

Percentage of the product content anticipated to become leakage during the

use phase due to for example wear & tear, oxidation, erosion, etc.

Sub Property Of hasProperty op

chemical substance disclosure threshold op

IRI http://w3id.org/CEON/ontology/textile/chemicalSubstanceDis

closureThreshold

Range TextileProductCompositionDisclosureStatement^C

desinged for recycling at the same level of quality op

IRI http://w3id.org/CEON/ontology/textile/designedForRecycling

AtSameQuality

DescriptionPercentage of the product that is designed for recycling at the same level of

quality. The remainder of the materials is foreseen by the manufacturer to be

recycled at a lower quality than the original content.

Sub Property Of hasProperty op

Range <u>TextileProductDesignForRecycling</u>^C

disclosure value op

Sub Property Of http://w3id.org/CEON/ontology/quantity#objectValue

Domain <u>TextileChemicalSubstanceThresholdStatement</u>^C

Range <u>AmountThreshold</u>^C

has color op

IRI http://w3id.org/CEON/ontology/textile/hasColor

Domain http://w3id.org/CEON/ontology/product/ProductObject or

http://w3id.org/CEON/ontology/product/Product^C or

http://w3id.org/CEON/ontology/resourceODP/BatchOfObjects^C

Range Color^C

Dye Method op

IRI http://w3id.org/CEON/ontology/textile/hasDyeMethod

Sub Property Of hasTextileManufacturingProcess op

Range <u>DyeingProcess</u>^C

Dye Stuff^{op}

Sub Property Of hasProperty op

has finishing op

IRI http://w3id.org/CEON/ontology/textile/hasFinishing

Sub Property Of hasProperty op

Range <u>TextileFinishing</u>^C

Finishing Step op

Sub Property Of hasTextileManufacturingProcess op

has post consumer recycled content amount op

http://w3id.org/CEON/ontology/textile/hasPostConsumerRecyc

 ${\tt ledContentAmount}$

Sub Property Of http://w3id.org/CEON/ontology/product/hasComposition

has pre consumer recycled content amount op

edContentAmount

Sub Property Of http://w3id.org/CEON/ontology/product/hasComposition

Print Finishing op

Sub Property Of hasProperty op

Print Method op

IRI http://w3id.org/CEON/ontology/textile/hasPrintMethod

Sub Property Of hasTextileManufacturingProcess op

Range <u>PrintingProcess</u>^C

Print Stuff^{op}

Sub Property Of hasProperty op

has property op

Super Property Of

• anticipatedLeakageDuringUse^{op}

desinged for recycling at the same level of quality op

<u>Dye Stuff</u>op

<u>hasFinishing</u>^{op}

• Print Finishing op

• Print Stuff op

Water Property^{op}

Domain http://w3id.org/CEON/ontology/datasheet/DataSheet

Range http://w3id.org/CEON/ontology/provenance/Statement

has textile manufacturing process op

ingProcess

Super Property Of

Dye Method^{op}

• Finishing Step op

• Print Method op

Range <u>TextileManufacturingProcess</u>^C

has textile product type op

IRI http://w3id.org/CEON/ontology/textile/hasTextileProductTyp

е

Domain <u>TextileProduct</u>^C

Range <u>TextileProductType</u>^C

Water Property op

IRI http://w3id.org/CEON/ontology/textile/hasWaterProperty

Sub Property Of hasProperty op

Range WaterProperty^C

product composition disclosure availability op

sclosureAvailability

product composition disclosure validation op

IRI http://w3id.org/CEON/ontology/textile/productCompositionDi

sclosureValidation

recycling at same quality range op

IRI http://w3id.org/CEON/ontology/textile/recyclingAtSameQuali

tyRange

Sub Property Of http://w3id.org/CEON/ontology/quantity#objectValue

textile product design op

IRI http://w3id.org/CEON/ontology/textile/textileProductDesign

Super Property Of <u>textileProductDesignForRecycling</u> op

textile product design for recycling op

ForRecycling

Description Product designed for a certain recycling method.

Sub Property Of textileProductDesign op

Range <u>TextileRecyclingProcess</u>^C

weight fraction of disclosed substances op

http://w3id.org/CEON/ontology/textile/weightFractionOfDisc

losedSubstances

has origin op

Range Origin^C

Datatype Properties

has type dp

IRI http://w3id.org/CEON/ontology/textile/hasType

Description Description of the kind of product.

Range xsd:string

contains metal dp

DescriptionThe product contains metal.

Range xsd:boolean

includes trims ^{dp}

Description The product includes trims.

Range xsd:boolean

production site dp

Description The location where the product was produced.

Range xsd:string

C Emark dp

IRI http://w3id.org/CEON/ontology/textile/CEmark

Description The product has theCE mark.

Sub Property Of certification dp

xsd:boolean Range

available information dp

IRI http://w3id.org/CEON/ontology/textile/availableInformation

Super Property Of

• biodegradabilityTestAvailable dp

- materialSafetyDataSheetAvailabledp
- materialSafetyDataSheetForDyeingAvailable dp
- materialSafetyDataSheetForFinishingAvailable^{dp}

• technicalDataSheetAvailabledp

biodegradability test available dp

IRI http://w3id.org/CEON/ontology/textile/biodegradabilityTest

Available

Description Biodegradability test is available.

Sub Property Of <u>availableInformation</u>^{dp}

Range xsd:boolean

certification dp

IRI http://w3id.org/CEON/ontology/textile/certification

Super Property Of CEmark dp

chemical compliance dp

IRI http://w3id.org/CEON/ontology/textile/chemicalCompliance

collection parameter dp

IRI http://w3id.org/CEON/ontology/textile/collectionParameter

Super Property Of collectionSystem dp

collection system dp

Description

The manufacturer/ industry association has a dedicated collection system in

place to gather and deliver products for recycling.

Sub Property Of collectionParameter dp

Range <u>xsd:boolean</u>

design for properties dp

Super Property Of

- <u>designedForRecycling</u> dp
- <u>designedForRefurbishment</u>^{dp}
- <u>designedForRemanufacturing</u> dp
- designedForReuse^{dp}

design for recycling amounts dp

IRI http://w3id.org/CEON/ontology/textile/designForRecyclingAm

ounts

Super Property Of emissionByDesign dp

designed for recycling dp

DescriptionThe product is designed for recycling?e

Sub Property Of designForProperties dp

designed for refurbishment dp

ment

DescriptionThe product is desinged for refurbishment?

Sub Property Of designForProperties dp

designed for remanufacturing dp

IRI http://w3id.org/CEON/ontology/textile/designedForRemanufac

turing

DescriptionThe product is designed for remanufacturing?

Sub Property Of designForProperties dp

designed for reuse dp

Sub Property Of designForProperties dp

Super Property Of designedForReuseWMinimalMod dp

designed for reuse w minimal mod dp

IRI http://w3id.org/CEON/ontology/textile/designedForReuseWMin

imalMod

DescriptionThe product is designed for re-use as-is or with minimal modification.

Sub Property Of <u>designedForReuse dp</u>

emission by design dp

DescriptionThe portion of the product known to be emitted into the environment during use

is designed for that purpose.

Sub Property Of designForRecyclingAmounts dp

finishing steps dp

material safety data sheet available dp

eetAvailable

DescriptionMaterial Safety Data Sheet for the product is available.

Sub Property Of availableInformation dp

Range xsd:boolean

material safety data sheet for dyeing available dp

IRI http://w3id.org/CEON/ontology/textile/materialSafetyDataSh

eetForDyeingAvailable

DescriptionMaterial Safety Data Sheets for Dyeing are available.

Sub Property Of availableInformation dp

Range <u>xsd:boolean</u>

material safety data sheet for finishing available dp

http://w3id.org/CEON/ontology/textile/materialSafetyDataSh

eetForFinishingAvailable

DescriptionMaterial Safety Data Sheets for Finishing are available.

Sub Property Of available Information dp

Range xsd:boolean

technical data sheet available dp

ailable

DescriptionThe Technical Data Sheet is available.

Sub Property Of available Information dp

Range <u>xsd:boolean</u>

Annotation Properties

C Fmapping ap

IRI http://w3id.org/CEON/ontology/textile/CFmapping

Pcd Smapping ap

Namespaces

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

dcterms

http://purl.org/dc/terms/

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#

vann
    http://purl.org/vocab/vann/
xsd
    http://www.w3.org/2001/XMLSchema#
```

Legend

С	Classes
ор	Object Properties
dp	Datatype Properties
ap	Annotation Properties