mapping_id	source_ontology_id	source_entity_type	source_iri	source_prefix	source_label	target_ontology_id	target_entity_type	target_iri	target_prefix	target_label	alignment_relation	direction	mapping_notes & justification
Stable mapping identifier, e.g., DPPO_CEON_0001	*DPP|DPPO|CEON*	*Class|ObjectProperty|DataProperty|AnnotationProperty|Individual*	*Absolute IRI*	*source prefix*	*Human-readable label*	*DPP|DPPO|CEON*	*Class|ObjectProperty|DataProperty|AnnotationProperty|Individual*	*Absolute IRI*	*target prefix*	*Human-readable label*	*Controlled vocabulary (see README)*	*source_to_target|target_to_source|bidirectional*	*rationale, ignored by generator for logic*
DPPO_CEON_0001	DPPO	Class	http://w3id.org/dppo/ontology/dpp-odp/Product	dpp-odp	Product	CEON	Class	http://w3id.org/CEON/ontology/product/Product	ceon-product	Product	equivalent_class	bidirectional	Both denote the generic notion of a product. DPPO's Product is defined as the thing a DPP describes; CEON's Product aligns with the same ISO definition. Thus, a one-to-one equivalence is appropriate, enabling a DPP-described product instance to be recognized as a CEON product instance.
DPPO_CEON_0002	DPPO	Class	http://w3id.org/dppo/ontology/dpp-core/Material	dpp-core	Material	CEON	Class	http://w3id.org/CEON/ontology/material/Material	ceon-material	Material	equivalent_class	bidirectional	DPPO defines Material as a subclass of Product, representing e.g. a bulk material or commodity that can itself have a passport. CEON's Material is a class under Matter, conceptually "the stuff products are made of." Despite the hierarchy difference, these classes refer to the same real-world category (materials like steel, plastic, wood). We align dppo:Material to ceon-material:Material as equivalent in intention, with the caveat that in CEON a Material is not a Product. In practice, this means if a DPP instance is typed as Material, we treat it as an instance of CEON Material (and not simultaneously a CEON Product). This alignment is semantically sound: DPP's broad notion of product covers materials, but when translating to CEON, we cast those to the Material branch. This is a specialization alignment, effectively partitioning DPP's Product category into CEON's Product vs Material depending on the instance's DPP subtype.
DPPO_CEON_0003	DPPO	Class	http://w3id.org/dppo/ontology/dpp-core/Substance	dpp-core	Substance	CEON	Class	http://w3id.org/CEON/ontology/material/ChemicalSubstance	ceon-material	ChemicalSubstance	subclass_of	target_to_source	DPPO uses Substance for basic chemical entities (elements or compounds) that might appear in a product's composition or as regulated substances. CEON explicitly defines ChemicalSubstance and ChemicalElement classes. This can be seen as a specialization of DPPO's Substance class.
DPPO_CEON_0004	DPPO	Class	http://w3id.org/dppo/ontology/dpp-comp/SubstanceOfConcern	dpp-comp	SubstanceOfConcern	CEON	Class	http://w3id.org/CEON/ontology/material/ChemicalEntity	ceon-material	ChemicalEntity	subclass_of	source_to_target	CEON does not have built-in classes for "substance of concern," but DPPO defines these as special Substance subclasses per EU regulation. We align this by treating DPPO's concern subclasses as subclasses of CEON's ChemicalEntity or ChemicalSubstance. For example, map dppo:ToxicSubstance as subclass of ceon-material:ChemicalSubstance, and similarly for others. This maintains the intent (they are chemical substances) within CEON's structure. The alignment type is partial: it introduces new specialization in CEON's hierarchy. CEON's material module can accommodate this extension (it was designed to be extended for domain-specific material classes). The mapping is justified because it enriches CEON with DPPO's regulatory nuance – something CEON currently lacks. Conversely, from a CEON perspective, one could treat these alignments as annotations (e.g., link a substance to an external regulatory classification). But for ontology alignment, subclassing is straightforward and retains semantics (any DPP ToxicSubstance is a CEON ChemicalSubstance with an added property "is toxic" or simply by class membership).
DPPO_CEON_0005	DPPO	ObjectProperty	http://w3id.org/dppo/ontology/dpp-odp/hasPart	dpp-odp	hasPart	CEON	ObjectProperty	http://w3id.org/CEON/ontology/product/hasProductComponent	ceon-product	hasProductComponent	subclass_of	target_to_source	DPPO uses one generic hasPart for products; CEON splits into model- and item-level shortcuts. Making both CEON properties subproperties of DPPO's hasPart preserves DPPO queries and CEON's extra precision. DPPO also infers partonomy from reified composition (see below).
DPPO_CEON_0006	DPPO	ObjectProperty	http://w3id.org/dppo/ontology/dpp-odp/hasPart	dpp-odp	hasPart	CEON	ObjectProperty	http://w3id.org/CEON/ontology/product/hasProductObjectComponent	ceon-product	hasProductObjectComponent	subclass_of	target_to_source	