ECHA
EUROPEAN CHEMICALS AGENCY

SCIP Notification Format

SCIP data model

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Contents

1. Introduction

The SCIP database is the database for submitted information on **S**ubstances of **C**oncern **I**n articles, as such or in complex objects (**P**roducts) established under the Waste Framework Directive (WFD). Article 9(1)(i) of the WFD requires that any supplier of an article has to provide the information on that article containing substances of very high concern (SVHCs) on the Candidate List (Candidate List substances) in a concentration above 0.1% weight by weight (w/w) to ECHA as from 5 January 2021. Article 9(2) of the same Directive sets out that ECHA shall establish a database for the data to be submitted to ECHA pursuant to point (i) of paragraph 1 by 5 January 2020 and maintain it and shall provide access to that database to waste treatment operators and to consumers upon request.

The SCIP database has the dual aim of gathering the information according to WFD Article 9(1)(i), which is necessary for achieving the objectives of WFD Article 9(2), and enabling optimised access to and use of structured and searchable information primarily by waste operators and consumers, but also by actors in the supply chain, NGOs and authorities. It contributes for the information on articles containing Candidate List substances being available throughout the whole lifecycle of products and materials, including at the waste stage.

This document describes the SCIP data model on a conceptual level. This model has been the basis for the implementation of the various components of the SCIP database solution. It describes the key entities, their main attributes as well as the most important relationships between these entities.

2. SCIP data model overview

Information in the SCIP database can be divided into two areas:

1. Technical data (information related to *Candidate List substance*, *article* and their association)
2. Administrative data (information related to *article*, *Legal Entity* and their association)

This is depicted in the visual below.

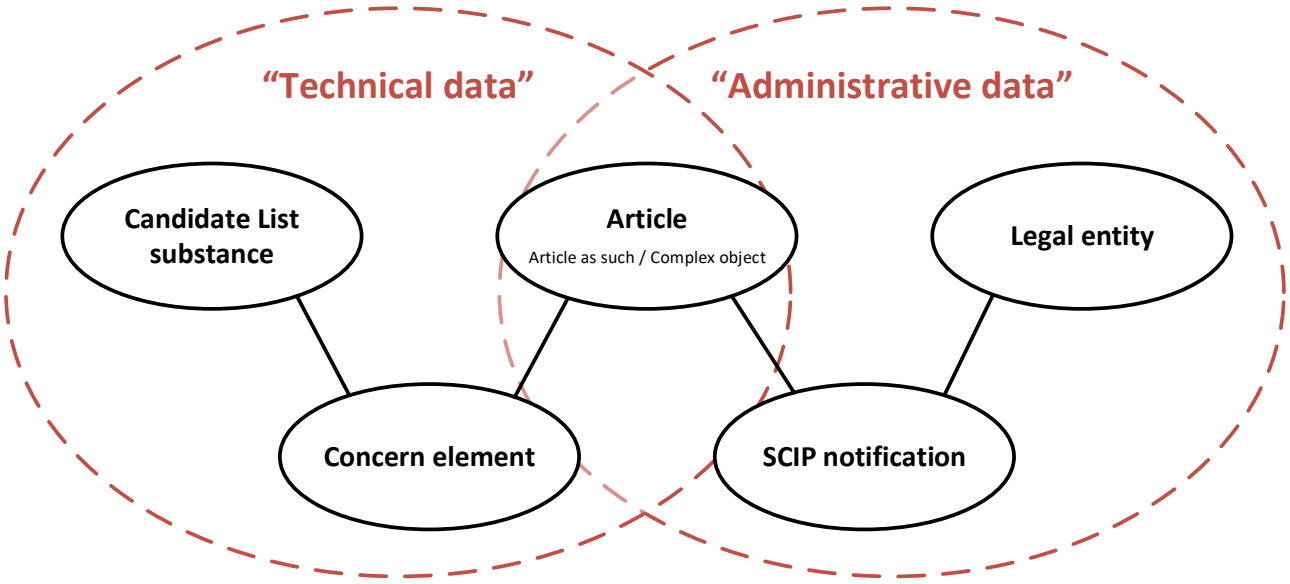


Figure 1: Main entities and their relationships in the SCIP data model

The scope of the SCIP database focuses on articles as such containing Candidate List substances in a concentration above 0.1% w/w and complex objects incorporating those articles.

The ***article*** entity is used conceptually as a generalisation of articles as such and complex objects, i.e. an article is either an *article as such* (e.g. blade, one-piece plastic spoon, O-ring) or a complex object (e.g. pencil sharpener, sofa, vehicle's engine, electronic equipment).

The ***Candidate List substance*** entity refers to a Candidate List entry or to a member of a Candidate List group entry.

The ***concern element*** entity associates an *article* and a *Candidate List substance* present in it.

The ***SCIP notification*** entity is the recorded association of an ***article*** requiring notification and the ***legal entity*** (duty holder) having completed their duty to notify. A ***SCIP notification*** is evidence of the duty holder having fulfilled their obligation to notify an article containing a Candidate List substance or complex object incorporating such an article being placed on the market.

2.1. Articles, articles as such, complex objects

An ***article*** is a 'super-type' entity with article as such and complex object as 'sub-types'. In other words, each *article* must be either an article as such or a complex object and it can only be one or the other (these sub-types are mutually exclusive). However, in the implementation, this 'sub-typing' has not been made explicit but rather is inferred by the existence (or non-existence) of one or more complex object components. In other words, if an ***article*** has at least one connected ***complex object component***, it is considered a complex object, if not it is considered an article as such. This distinction is important because a ***concern element*** can only be connected to an article as such, not to a complex object.

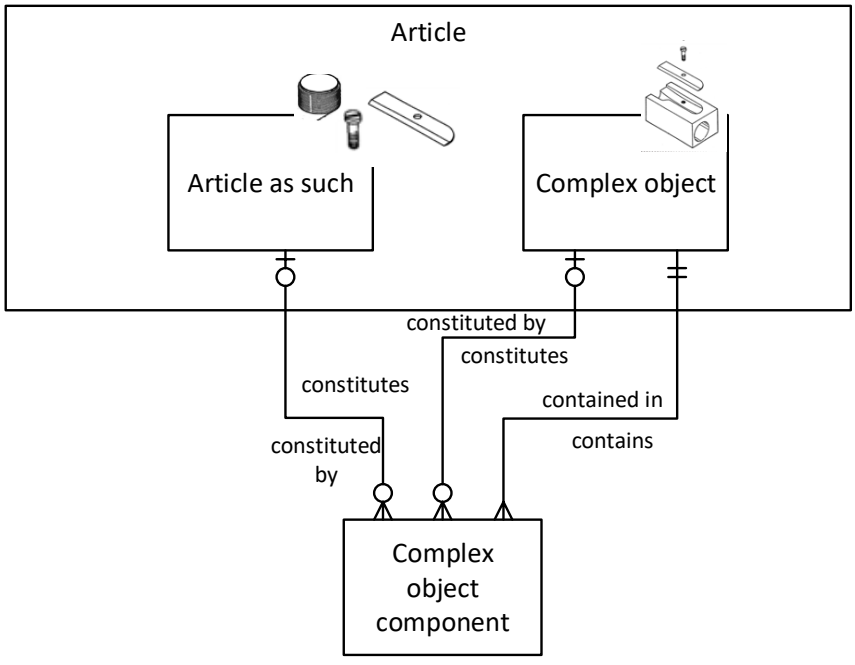
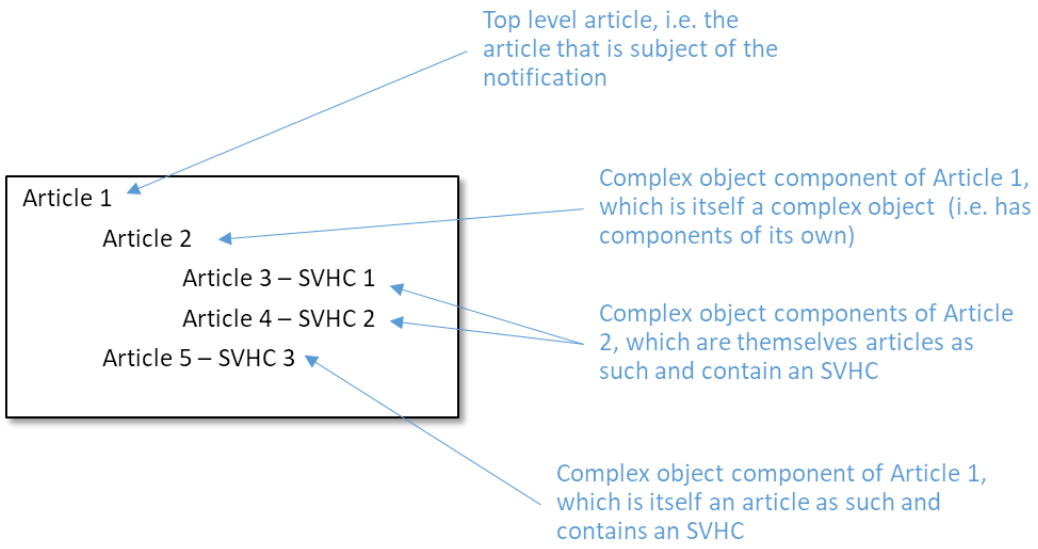


Figure 2: ***Article*** within the SCIP database concept. A complex object component may be an article or a complex object made of articles.

The relationships between a complex object and its components instantiate what is known as the 'hierarchy'. The 'hierarchy' establishes where in the complex object the component articles as such containing the Candidate List substance(s) are located. An article as such cannot have child components of its own but is the final node connecting to the Condidate List substance(s) via the concern element.

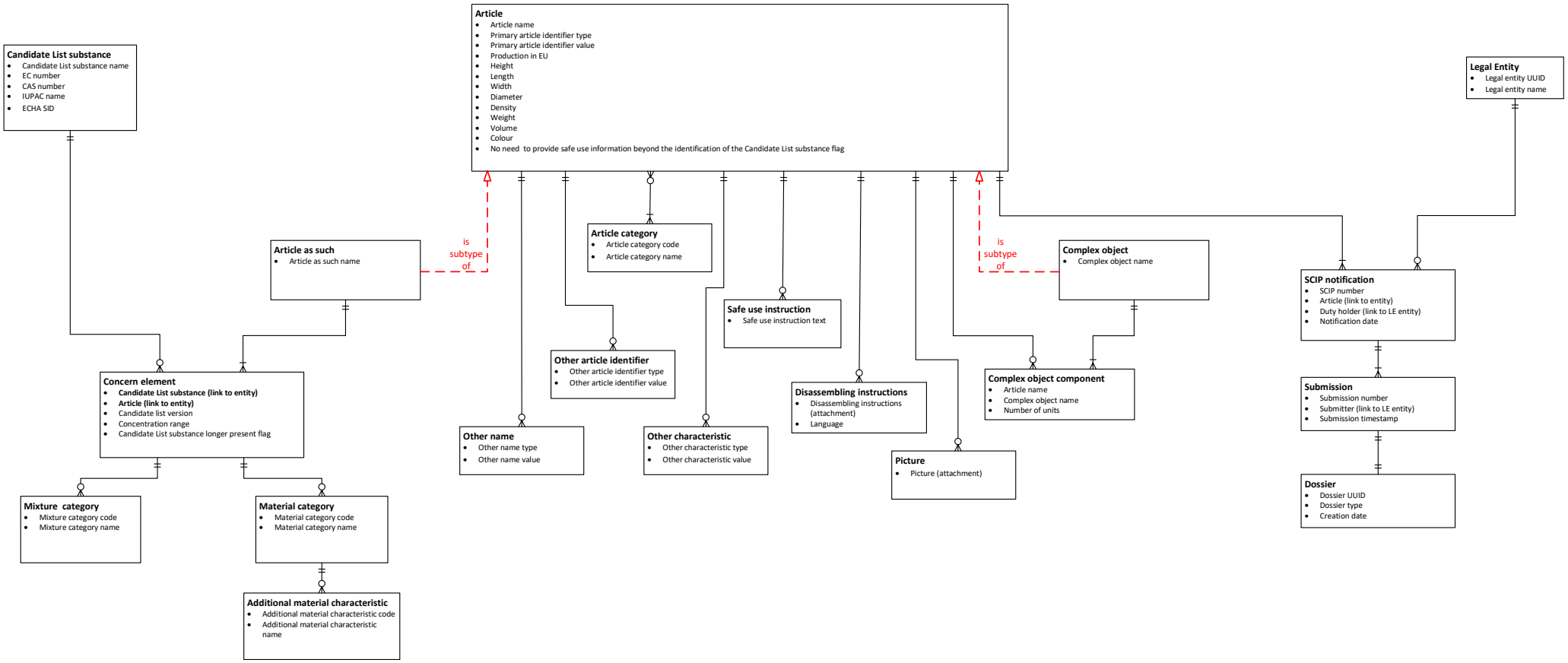
The visual below depicts an illustrative 'hierarchy'.



3. SCIP entity-relationship diagram

The entity-relationship diagram (E-R diagram) on the following page depicts the SCIP data model in detail.

Definitions for each entity and attribute are available in the glossary in the following chapter.


Candidate List substance
Candidate List substance name
EC number
CAS number
IUPAC name
ECHA SID
Article
Article name
Primary article identifier type
Primary article identifier value
Production in EU
Height
Length
Width
Diameter
Density
Weight
Volume
Colour
No need to provide safe use information beyond the identification of the Candidate List substance flag
Legal Entity
Legal entity UUID
Legal entity name
Article as such
Article as such name
is subtype of
Article category
Article category code
Article category name
is subtype of
Complex object
Complex object name
SCIP notification
SCIP number
Article (link to entity)
Duty holder (link to LE entity)
Notification date
Safe use instruction
Safe use instruction text
Other article identifier
Other article identifier type
Other article identifier value
Concern element
Candidate List substance (link to entity)
Article (link to entity)
Candidate list version
Concentration range
Candidate List substance longer present flag
Disassembling instructions
Disassembling instructions (attachment)
Language
Complex object component
Article name
Complex object name
Number of units
Submission
Submission number
Submitter (link to LE entity)
Submission timestamp
Other name
Other name type
Other name value
Other characteristic
Other characteristic type
Other characteristic value
Picture
Picture (attachment)
Mixture category
Mixture category code
Mixture category name
Material category
Material category code
Material category name
Dossier
Dossier UUID
Dossier type
Creation date
Additional material characteristic
Additional material characteristic code
Additional material characteristic name

4. SCIP glossary

This glossary defines each entity and attribute as presented in the E-R diagram.

Entity/attribute	**Definition**
Article	Article is a super-type (or a generalisation) entity comprising the concepts of *article as such* and *complex object* in the context of the SCIP database. (The term "product" is not used as a synonym for article to avoid confusion. A "product" can be a substance, a mixture or an article.) *Article (legal definition)* In the legal context, REACH Article 3(3) defines article as an "object which during production is given a special shape, surface or design which determines its function to a greater degree than does its chemical composition." Additional information about the definition of an article can be found in the ECHA's Guidance on requirements for substances in articles (ECHA's SiA Guidance). *Article as such* The most granular, basic unit, in which an article can exist after being produced. An article as such is an article on its own on in a complex object. *Complex object* Refers to any object made up of more than one article. The concept is introduced in Chapter 2.4 of ECHA's SiA Guidance and corresponds to the term "complex product" as used in the Court Judgement in the case C-106/14. According to this judgement, articles that are assembled or joined together remain articles, as long as they keep a special shape, surface or design, which is more decisive for their function than their chemical composition, or as long as they do not become waste, as defined in the Waste Framework Directive (Directive 2008/98/EC). In complex objects, several articles can be joined or assembled together in various manners. The more articles it is made of, the more complex an object becomes.
Article name	The name of the article or complex object as given by the duty holder. The name should be concise but descriptive of the specific article or complex object you are reporting (e.g. screw, blade, pencil sharpener, digital watch, engine, motorcycle).
Primary article identifier ([Type] and [Value])	The primary article identifier is a numerical or alphanumerical identifier, in the SCIP database context, assigned by the duty holder to the article as such or to the complex object and the identification of its type. The primary article identifier (type and value) is key to manage the notifications and submissions for the articles as such and the complex

	objects for which the data is being submitted. The primary article identifier is composed of: • **Type:** This can be selected from a set of pre-defined picklist values (e.g. European Article Number - EAN, Universal Product Code - GPC, Global Trade Item Number - GTIN, ECHA Article ID, catalogue number, part number) or defined freely using "other:". • **Value:** Alphanumeric text assigned by duty holder (e.g. the EAN number) For articles placed on the market for consumers, at least, if available, an identifier made available to them, e.g. European Article Number (EAN), needs to be provided in this attribute or in the "Other Article Identifier" attribute, in order to allow consumers to identify unequivocally the article or the complex object for which information is being submitted.
Production in EU	Indication of whether or not the article or complex object has been produced or assembled in the European Union. This is selected from a set of pre-defined picklist values: - EU produced, - EU imported, - Both EU produced and imported, - No data.
Height	Indication of the height of the article. Unit of measure is indicated from a set of pre-defined picklist values.
Length	Indication of the length of the article. Unit of measure is indicated from a set of pre-defined picklist values.
Width	Indication of the width of the article. Unit of measure is indicated from a set of pre-defined picklist values.
Diameter	Indication of the diameter of the article. Unit of measure is indicated from a set of pre-defined picklist values.
Density	Indication of the density of the article. Unit of measure is indicated from a set of pre-defined picklist values.
Weight	Indication of the weight of the article. Unit of measure is indicated from a set of pre-defined picklist values.
Volume	Indication of the volume of the article. Unit of measure is indicated from a set of pre-defined picklist values.
Colour	Indication of the colour or colours of the article.

	This is selected from a set of pre-defined picklist values.
No need to provide safe use information beyond the identification of the Candidate List substance flag	Flag indicating that the identification of the Candidate List substance is sufficient to allow safe use of the article throughout the whole life cycle including service life, disassembly and waste/recycling stage.
Other name	Any additional name of the article or complex object (e.g. brand, model) as given by the duty holder. Each article may be identified by more than one name. It comprises two attributes: value and type. The type is selected from a picklist and the name is a text field. Other names rather refer to other names used to identify the article or complex object within a family, category or group (e.g. brand, model) than to synonyms of the name provided in 'Article name' field. Therefore, they must be must inserted for articles or complex objects to be supplied to consumers, when such names are available to them and are key to allow them to search the information in the SCIP database (e.g. brand and model).
Other name type	An additional name type of the article as given by the duty holder. This can be selected from a set of pre-defined picklist values (e.g. brand, model, type) or defined freely using "other:". It is an attribute of the 'Other name'.
Other name value	The data field where the additional name of the article or complex object as given by the duty holder must be reported (see "Other name"). It is a text field. It is an attribute of the 'Other name'.
Other article identifier	An article identifier is a numerical or alphanumerical identifier assigned by the duty holder to the article as such or the complex object and the identification of its type. Therefore, it comprises two attributes: value and type. The type is selected from a picklist and the value is a text field. Each article may be identified by more than one article identifier. [For *articles as such* or *in complex objects,* or *complex objects* placed on the market for consumers, at least an identifier available to consumers, e.g. European Article Number (EAN), needs to be provided in this attribute or in the "Primary Article Identifier" attribute, in order to allow consumers to identify unequivocally the article or the complex object for which information is being reported.] Note: For instance, the EAN barcode is a visual, machine readable,

	representation of the EAN number.
Other article identifier type	Any additional article identifier **type** of the article as given by the duty holder. This can be selected from a set of pre-defined picklist values (e.g. EAN, GPC, GTIN, catalogue number) or defined freely using "other:". It is an attribute of the 'Other article identifier'.
Other article identifier value	Any additional article identifier of the article as given by the duty holder. An article identifier is a series of symbols (numbers, characters, etc.), i.e. a numerical or alphanumerical value, that identifies an article. It is a text field. It is an attribute of the 'Other article identifier'.
Article category	Article category 'classifies' an article as such (with Candidate List substances) or a complex object (incorporating such articles) according to its function/use (from a harmonised list). The appropriated article category is selected from a set of pre-defined values on a multi-select picklist, the integrated Tariff of the European Union – TARIC – list. This list incorporates the Combined Nomenclature (CN)) codes and descriptions as set out in Annex I to Council Regulation (EEC) No 2658/87. (the relevant descriptions and codes must be selected). Both TARIC and the Combined Nomenclature are managed by the European Commission (DG TAXUD). The article category is composed of: • Code (numerical code): CN code or TARIC code. The CN code corresponds to a number attributed to each subdivision of the Combined Nomenclature. The TARIC code is based on the Combined Nomenclature, with additional subdivisions. • Description: CN or TARIC description associated to the CN or TARIC code. [These descriptions are available in all official EU languages, it can be access from the Taxation and customs union page, Taric consultation section.] See SCIP Format Annexes available in the SCIP webpage to find the full picklist for articles categories. This can be selected from a set of pre-defined values on a multiselect picklist.
Picture	A visual representation of the article being depicted. A picture can be a photograph, a diagram, or some other visual representation of the article.
Picture (attachment)	Uploaded picture file.
Other	A feature, quality or property of the article beyond the specific

characteristic	characteristics list as attributes of the article entity above that describes the article serving to help identify that article. Any article or complex object characteristic(s) that may help to distinguish the article or complex object from similar articles or complex objects. Examples could include a quality standard that the article complies with, or an article specific feature such as the opacity of paper.
Other characteristic type	Defines the type of characteristic being indicated (e.g. quality standard, paper opacity).
Other characteristic value	Sets the value of the characteristic (e.g. ISO 2471:2008, 85%).
Safe use instruction	Information to ensure the safe use of an article containing a Candidate List substance or a complex object incorporating such articles throughout the whole life cycle including service life, disassembly and waste/recycling stage. It must enable all actors in the supply chain and consumers to take, at their stage of the use of the article, the appropriate risk management measures to guarantee the safe use of articles containing Candidate List substances. It may also include information which is necessary to ensure proper management of the article or complex object once it becomes waste.
Safe use instruction text	A phrase or statement to ensure the safe use of an article containing a Candidate List substance or a complex object incorporating such articles. It is a text field. It is an attribute of the 'safe use instruction'.
Disassembling instructions	Specific instructions describing how to safely disassemble the article or the complex object.
Disassembling instructions (attachment)	Uploaded instructions file.
Language	Defines the language of the file. This is selected from a set of pre-defined picklist values (e.g. en, fr, de, etc.).
Complex object component	For a complex object notification, this section is required to be filled in with the link components (either for a complex object component or an article as such component) of the complex object. There is no limit to how many levels of "nesting" of complex objects in a complex object can be defined. Example(s) illustrating the content of this section are included in the document "Detailed information requirements for the SCIP database".
Article name (link	Add a link to an existing article or complex object or create a new article or a complex object to link with this complex object.

to entity)	
Number of units	Number of occurrences of the linked article in the complex object (e.g. 1 combustion engine and 4 wheels in a motor vehicle).
Concern element	The concern element is the recorded association of an article as such with the Candidate List substance that it contains above the 0.1% w/w concentration threshold triggering the duty to notify this article (or complex objects incorporating it) to the SCIP database.
Candidate list substance (link to entity)	A link to the identification of the substance of very high concern (SVHC) in the Candidate List present in the article as such. *Implementation note:* This link is done via the reference substance entity in IUCLID.
Candidate list version	Identification of the Candidate List substance version based on which the information on the article as such or complex object has been assessed against before being submitted to ECHA. This is selected from a set of pre-defined picklist values. ⚠ This field will be deleted in the October 2020 version.
Concentration range	Indication of the concentration range of the Candidate List substance present in the article. This is selected from a set of pre-defined picklist values, which includes the range that triggers the SCIP notification obligation: > 0.1% w/w and ≤ 100% w/w.
Candidate list substance longer present flag	Flag indicating that the Candidate List substance is no longer present in the article, e.g. as a result of product development (e.g. substitution of the Candidate List substance by a safer alternative).
Candidate List Substance	A substance of very high concern (SVHC) in the Candidate List. It is any substance that has been officially included in the Candidate List (REACH Art. 59). Candidate List substances are substances which are "candidate" for inclusion in Annex XIV, the REACH authorisation list, and may be subject to restrictions.
Candidate list substance name	The name of the Candidate List substance as specified on the official Candidate List published in ECHA's website.
EC number	The EC or Inventory number of the Candidate List substance, where available.
CAS number	The CAS number of the Candidate List substance, where available.
IUPAC name	The IUPAC name of the Candidate List substance, where available.
ECHA SID	The ECHA Substance ID number of the Candidate List substance.
Material category	The material category identifies the material that the article as such is made of and where the Candidate List substance is present. This can be selected from a set of pre-defined values on a multiselect picklist. See SCIP Format Annexes available in the SCIP website.
Additional	Additional information that further describe the material that the article

material characteristic	is made of, where the Candidate List substance is present. This can be selected from a set of pre-defined values on a multiselect picklist. See SCIP Format Annexes available in the SCIP website.
Mixture category	The mixture category describe the mixture (where the Candidate List substance is present) incorporated in an article in the further processing step (e.g. coating) or when joining or assembling two or more articles in a complex object (e.g. adhesive, solder). This can be selected from a set of pre-defined values from the European product categorisation system (EuPCS) on a multiselect picklist. See SCIP Format Annexes available in the SCIP website.
SCIP notification	A SCIP notification is the recorded association of an article (article as such or complex object) requiring notification and the duty holder (legal entity) having completed their duty to notify. It is evidence of the duty holder having fulfilled their obligation to notify an article being placed on the market.
SCIP number	The unique identifier of the SCIP notification for an article as such or a complex object. This is a type of asset in the EDM context.
Article (link to entity)	A link to the article being notified. *Note for implementation:* Unique identification of an article can only be guaranted once it is submitted to ECHA as a SCIP notification. Its identification will be based on the combination of: Article primary identifier type and value, plus LE UUID.
Duty holder (link to LE entity)	A link to the legal entity of the duty holder.
Notification date	The date as of which the SCIP notification is considered valid as of, i.e. date of a successful initial notification submission for an article as such or complex object.
Legal entity	An entity that takes part or is involved in any activity being managed by ECHA in such a manner that this involvement requires specifically identifying and keeping record of this entity. Broadly speaking, parties can be thought of as ECHA's "business partners". In the context of the SCIP database, the legal entities of interest are the duty holders, and if different, the submitters (e.g. if submitting on behalf use case were to be supported).
Legal entity UUID	Universal unique identifier of the legal entity. This identifier is established at the time of signing up as a legal entity with ECHA.

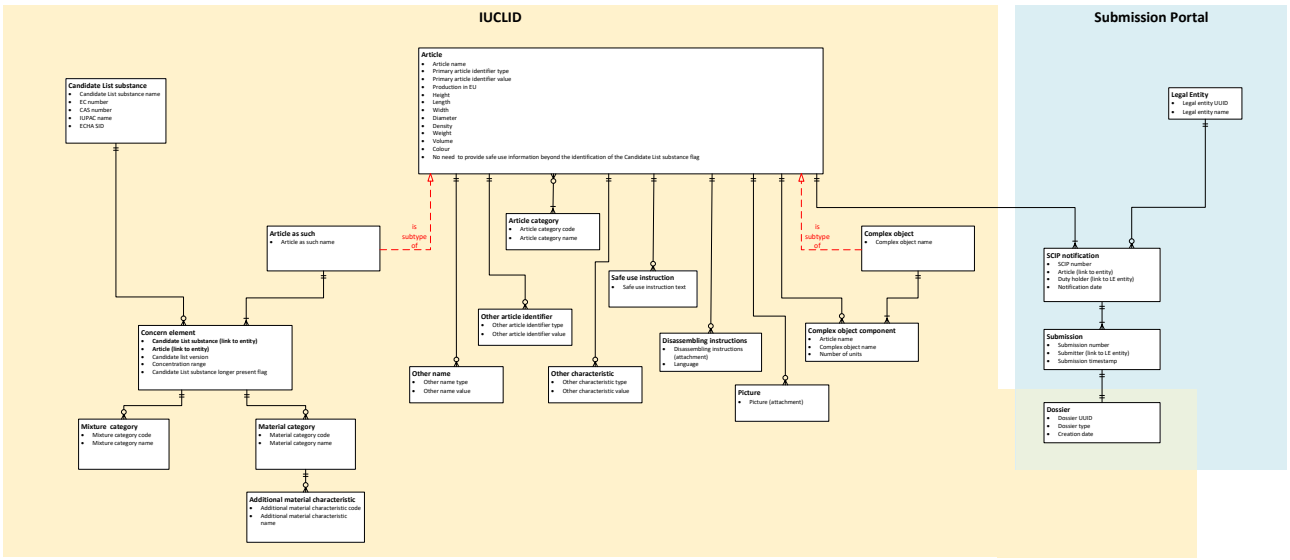
Legal entity name	Name of the legal entity.
Submission	A submission records the event or transaction of the duty holder (or someone on his behalf) submitting the SCIP notification to ECHA.
Submission number	A unique identifier generated for the submission by ECHA.
Submitter (link to LE entity)	A link to the legal entity of the submitter.
Submission timestamp	The date and time of the submission.
Dossier	A dossier packages and transmits the data to be submitted in the pre-defined SCIP format. In practice the dossier is a collection of files that represents a snapshot of the required information at a given time.
Dossier UUID	Universal unique identifier of the dossier.
Dossier type	Type of dossier defines its data contents. In the SCIP context, we will be dealing with SCIP dossiers.
Creation date	Data of creation of the dossier.

5. Notes on implementation

This chapter highlights some key points related to how the SCIP data model has been implemented.

5.1. Data preparation and data submission

The visual below depicts on a high level how the scope of the SCIP data model translates into its physical implementation across IUCLID (data preparation) and the Submission Portal (data submission) in the SCIP database solution.



Key observations

- The dossier acts as the "vehicle" transporting the data about the article being notified in the submission transaction
- The dossier, which is a snapshot of the information at a given time, consists of
    - one or more articles datasets representing the article being notified; and
    - one or more reference substance datasets representing the Candidate List substance(s) included in the article

5.2. Approaches to minimise data redundancy

To minimise re-submission of data already stored in the the SCIP database, duty holders may use referencing and/or simplified SCIP notification if their specific circumstances so permit.

5.2.1. Referencing

In the context of linking articles as complex object components to an article, this linking may be done via reference to an article previously submitted to the SCIP database.

This is done by creating a "light-weight" article dataset identified by the article's SCIP number established for that previously notified article. This "light-weight" article dataset will include no other information apart from this identification as the information already exists in the SCIP database.

Further details are explained in the following document:

SCIP Notification Format - Preparing a SCIP dossier.

5.2.2. Simplified SCIP notification

Where a duty holder needs to notify an article that has already been notified, they may avail of the possibility of notifying the same without submitting a IUCLID dossier. This is know as the simplified SCIP notification approach.

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