

An Introduction to Creating Customised Reports



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1. Creating your own customised reports

The IUCLID 6 Report Generator allows the possibility to upload customised report templates. These report templates can be used to extract data from IUCLID's datasets and dossiers and output this information in different formats.

Examples of output formats include:

- RTF (human readable)
- PDF (human readable)
- XML (machine readable)
- CSV (human and machine readable)

To upload and manage customised report templates in IUCLID follow these steps:

- Left-click on the Report generator icon on the IUCLID dashboard.
- Click on 'Manage reports', which then opens the Manage reports box.
- Click 'Add' in the bottom left-hand corner of the Manage reports box.
- Fill in the various details of your report:
 - Name of the report
 - Upload the report templates (assign which template is the 'main' template)
 - Output formats which the report is compatible with
 - Add a stylesheet if needed
 - Select if your report is compatible with Substances and/or Mixtures (note that report generation for Categories is not yet supported)
- Click 'Save'.

When you come to generate a report, based on your selections above, you will see your customised template and the available output types.

2. Generating an XML with Freemarker

The [SPC report template](#) is an example of a Freemarker template which can be used with IUCLID's Report Generator to extract data from a IUCLID dataset or dossier to generate an XML file that can be imported into the SPC Editor.

The SPC report template can be taken as an example of how to create a customised Freemarker template which is processed by the Report Generator to output an XML file for use with other systems.

On the IUCLID 6 web site, you will find a generic example of a Freemarker template for outputting an XML file, as well as an example IUCLID 6 dataset to use with.

For additional support in generating an XML with Freemarker, please visit <http://freemarker.org/>.

3. Generating an RTF or PDF with Freemarker and Docbook

Two popular outputs of the Report Generator also use Freemarker syntax combined with DocBook to extract data from a IUCLID dataset or dossier, and convert this extracted data into an RTF or PDF through an XSL-FO Converter.

DocBook markup allows you to structure the output of your information into headers and tables for example (as you can see when generating a Chemical Safety Report from IUCLID 6).

On the IUCLID 6 web site, you will find a generic example of a DocBook template for outputting an RTF or PDF file, as well as an example IUCLID 6 file to generate a report with.

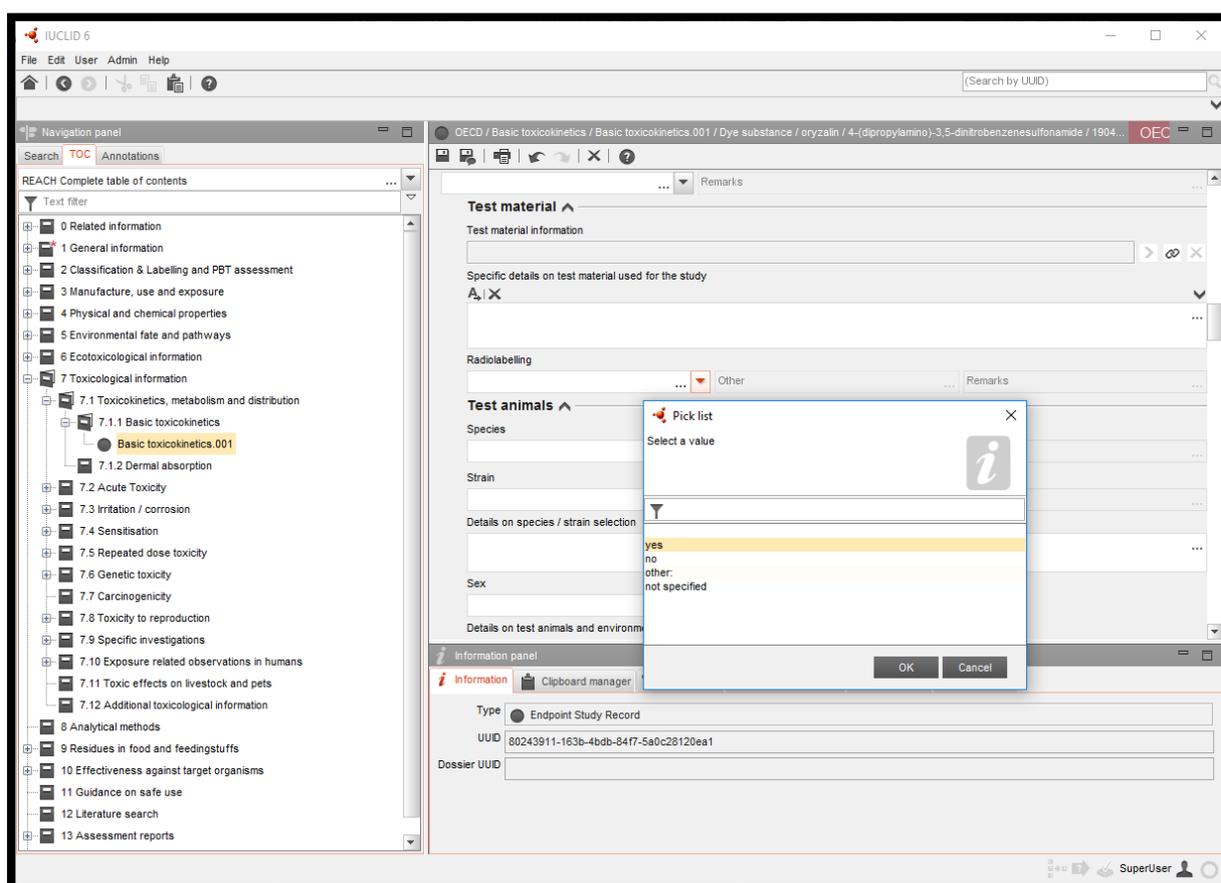
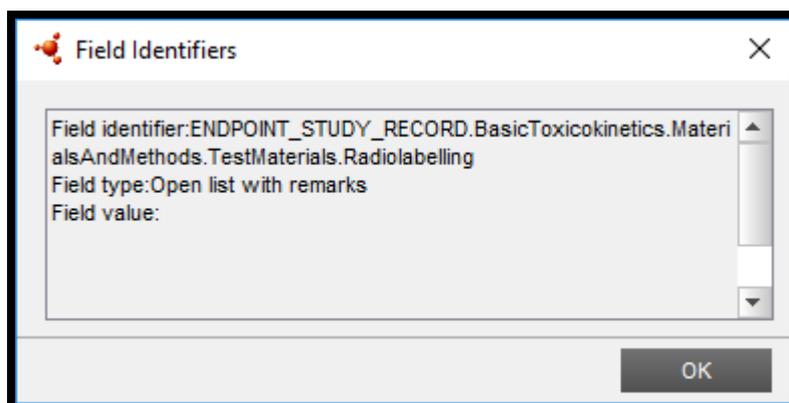
For additional support in generating an RTF or PDF with Freemarker and Docbook, visit <http://freemarker.org/> and <http://docbook.org/>.

4. Referencing IUCLID fields in templates

Information from IUCLID 6 is retrieved in the report templates using the IUCLID field identifier, which is a unique path for every field in IUCLID 6.

You can find the field identifier by clicking in a IUCLID field and pressing F12 on your keyboard. This will show you the full path from the IUCLID document to the field level, see the screenshot example below.

Figure 1: Field identifier information



To take the example above, for the field 'Radiolabelling' in section 7.1.1 the identifier is:

`BasicToxicokinetics.MaterialsAndMethods.TestMaterials.Radiolabelling`

To break this down:

- `ENDPOINT_STUDY_RECORD` (this is the type of IUCLID document)
- `BasicToxicokinetics` (this is the identifier of the document)
- `MaterialsAndMethods` (this is the first level header in the document)
- `TestMaterials` (this is the second level header in the document)
- `Radiolabelling` (this is the identifier for the field itself)

Please note that you will not be able to find the field identifier for the beginning of a repeatable set or repeatable list (a table) in IUCLID using F12, such as the Doses / Concentrations repeatable list in section 7.8.1 (Toxicity to reproduction).

To assist you in finding the correct field identifiers, you can find, on the IUCLID 6 web site, an Excel file containing all IUCLID 6 field identifiers:

<https://iuclid6.echa.europa.eu/format>

5. Modifying existing templates

5.1. CSR templates

You will find in the archive folder for the Chemical Safety Report (CSR), on the IUCLID 6 web site, the following Freemarker templates:

- `00_csr_main.ftl`
- `01_csr_identity_of_the_substance_and_phys_chem_properties.ftl`
- `02_csr_manufacture_and_use.ftl`
- `03_csr_classification_and_labelling.ftl`
- `04_csr_environmental_fate_properties.ftl`
- `05_csr_human_health_hazard_assessment.ftl`
- `06_csr_human_health_hazard_assessment_of_physicochemical_properties.ftl`
- `07_csr_environmental_hazard_assessment.ftl`
- `08_csr_pbt_and_vpvb_assessment.ftl`
- `Annex1_csr_references.ftl`
- `Annex2_csr_information_on_test_material.ftl`
- `macros_common.ftl`
- `macros_csr.ftl`

<https://iuclid6.echa.europa.eu>

Templates 01 to 08 refer to the different chapters of the CSR (e.g. 01 is Chapter 1, 02 is Chapter 2, etc.). Each chapter corresponds to the IUCLID documents relevant to that chapter. For example, if you wish to modify the reported information on the endpoint `Acute Toxicity: oral`, you will find this information in the chapter 5 template on human health named: `05_csr_human_health_hazard_assessment.ftl`.

To generate a report using a customised CSR template with the Report Generator, you will first need to extract and save from the archive folder all the above files locally on your computer. You can then modify the files using, for example, the application: [Notepad ++](#).

Inside each chapter, you will find specific macros and functions for that chapter. The macros contain paths to IUCLID fields that are repeated in the chapter. The functions define conditions for a specific document (or several documents) and the related fields and what IUCLID data are to be retrieved and outputted from these fields.

5.2. Function (example)

As an example of how a function works, `<#function getSortedToxicityToReproInHumans studyList>` is found in the chapter 5 template. Here, the function creates a condition so that the field paths (call these `FieldsA`) for `EndpointRecordA` are only printed if a certain picklist value has been selected in `EndpointRecordB`, and then, if that value is found, `FieldsA` are sorted by the picklist value selected in another field, `FieldB`, which is found in `EndpointRecordA`.

The other files in the CSR report template list above are explained in the following sections.

5.3. macros_common.ftl

This file contains macros which are common to any report template you create. You can call into the main template a macro from this file so as to retrieve the different field datatypes found in IUCLID, such as decimal ranges, rich-text fields etc., and to retrieve information from fields which contain specific values inside picklists.

For example, when retrieving the information from the field below, which has the datatype `open list`:

```
ENDPOINT_STUDY_RECORD.RespiratorySensitisation.MaterialsAndMethods.TestAnimals.Species
```

The `picklist` macro from the `macros_common.ftl` is used inside the relevant CSR Chapter:

```
<@com.picklist study.MaterialsAndMethods.TestAnimals.Species/>
```

5.4. macros_csr.ftl

This macro contains references to particular parts of the CSR that are commonly repeated, such as Test Material Information or macros to print certain values in the Endpoint Summaries. These macros may be useful for creating other templates, but most are specific to the generation of a CSR.

5.5. 00_csr_main.ftl

This file organises the structure of the CSR and contains various macros and functions to structure the chapters information into the three basic types of information: study results, data waiving, and testing proposals.