

# Medicinal Product Form (MPF)

An abstract representation of a medicinal product described by its active ingredient substances and a grouping dose form concept (based on the intended site of administration for the dose form group) but without reference to any product strength.

The grouping dose form concepts are the immediate children of [736542009 \[Pharmaceutical dose form \(dose form\)\]](#) and are described in detail in the Editorial Guidance section [Grouped Based on Intended Site](#). These grouper concepts gather together all the formulations (solid, semi-solid, liquid or gaseous manufactured dose forms) that have the same intended site of administration. The intended site of administration of a dose form concept is a description of the general body site (i.e. not exactly anatomically explicit - no laterality etc.) where the dose form will be administered. For example, products formulated with a dose form of eye drops are required to meet various pharmacopoeial standards of sterility, particulate contamination and pH as they are intended to be administered to an "ocular" site. For further information see section 5.3.2.7 of ISO 11239:2012 *Health informatics - Identification of medicinal products — Data elements and structures for the unique identification and exchange of regulated information on pharmaceutical dose forms, units of presentation, routes of administration and packaging*.

## Medicinal Product Form (MPF containing) (open world view)

### Definition of MPF (containing)

An abstract representation of a medicinal product based on description of active ingredient substances it contains and on the (generalised) intended site of use for the product.

For example, "Product containing amoxicillin in oral dosage form" represents the group of products that must contain some amoxicillin (be it amoxicillin sodium or amoxicillin trihydrate or amoxicillin base), but *may also* contain other active ingredients, such as clavulanic acid, in manufactured dose forms such as oral suspension, oral capsule (any type), oral tablet (any type).

### Example diagrams for MPF (containing)

Stated template view:

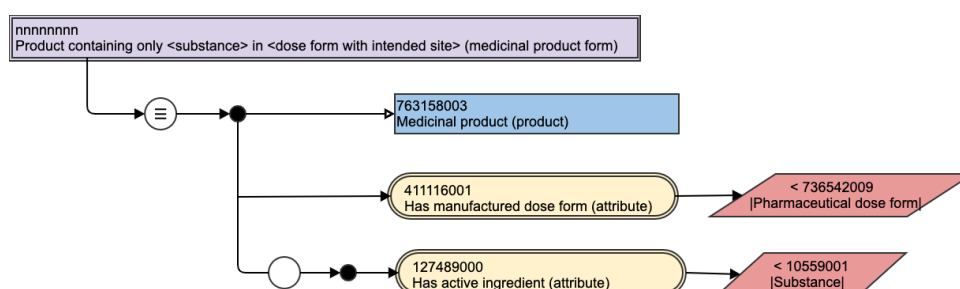


Figure 22: Medicinal Product Form (containing) stated template view

**Example:** single active ingredient product, oral dose form: stated view followed by the inferred view that shows the two proximal parent concepts associated with the product:

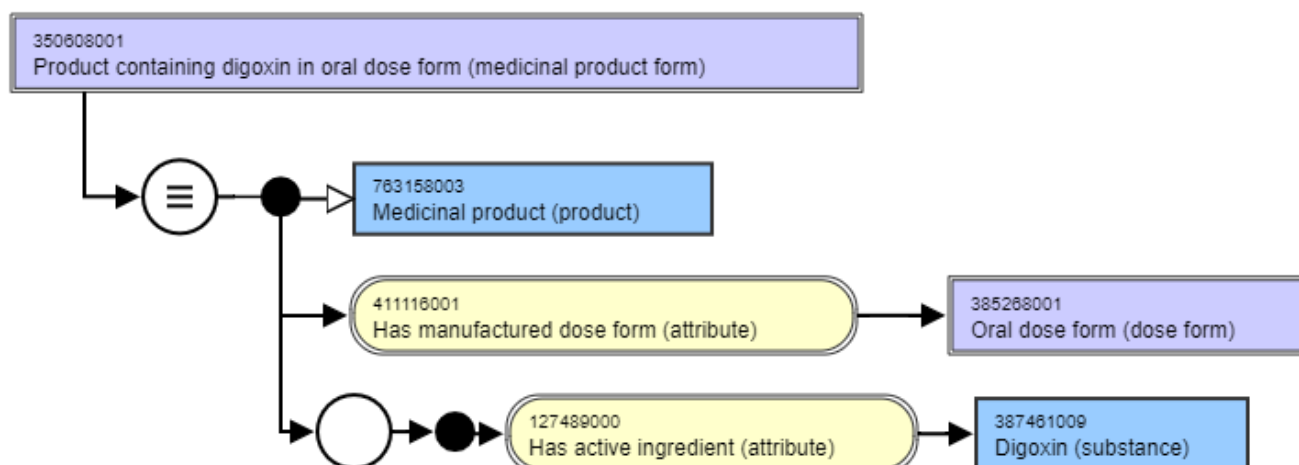


Figure 23: Medicinal Product Form (containing) example stated view

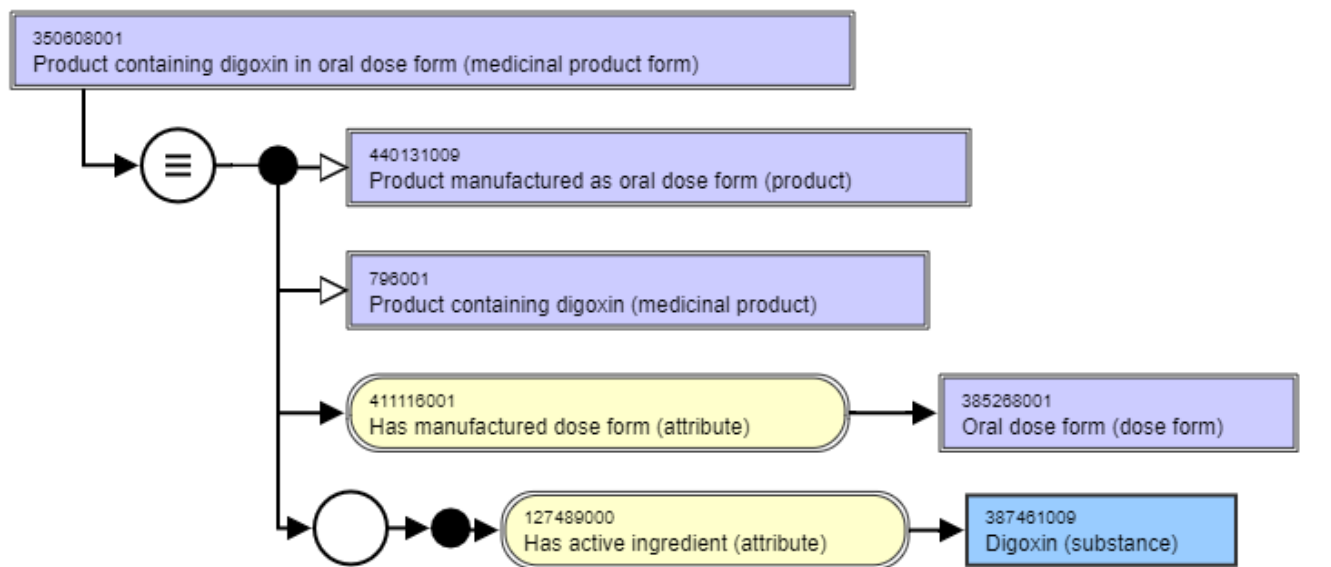


Figure 24: Medicinal Product Form (containing) example inferred view

Attributes of MPF (containing)

The Medicinal Product Form (MPF containing) concept is defined by attributes to describe the active ingredient(s) and to describe the dosage form:

Semantic tag		(medicinal product form)
Definition status		<div>900000000000073002  Sufficiently defined concept definition status </div> <div>Exceptions</div> <div>None identified</div>
Role Group	Attribute 127489000  Has active ingredient	<div>Range</div> <div><div>&lt; 105590001  Substance </div><div>Excluding concepts representing structural groupers, dispositions, or combined substances</div></div> <div>Cardinality</div> <div>1..* -</div> <div>Notes</div> <div><div>There is no technical limit on the number of Has active ingredient attributes that may be added to a concept; a practical limit may be imposed at a later date</div><div>For content in the International Release, this attribute value should represent the base ingredient, not a modification, unless explicitly identified as an exception.</div><div>This attribute describes the set of active ingredient substances that the concept minimally contains. A set of active ingredient substances may well have only one member</div></div>

<b>Attribute 411116001</b>  Has manufactured dose form	<b>Range</b> <ul style="list-style-type: none"> <li>• &lt; 736542009  Pharmaceutical dose form  <ul style="list-style-type: none"> <li>◦ Only descendants that are groupers representing intended site only (e.g. 385268001   Oral dose form (dose form)  , 385287007   Parenteral dose form (dose form)  )</li> </ul> </li> </ul> <b>Cardinality</b> <ul style="list-style-type: none"> <li>• 1..1</li> </ul> <b>Notes</b> <ul style="list-style-type: none"> <li>• This attribute describes a grouping dose form concept for the medicinal product, where the grouping is the intended site for administration of the dose form of the product</li> </ul>
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## Use case(s) supported by MPF (containing)

The main use case for the MPF (containing) is for analysis; as an aggregation concept for use in research. It may be that this concept may be used to support the modelling of other concepts in the future.

## Availability of MPF (containing) concepts in the international edition

This class forms part of the medicinal product content provided in the international edition.

## IDMP Compatibility

A concept at this level with the open world view does not correspond to any concept currently in the IDMP suite of standards.

## Medicinal Product Form (MPF only) (closed world view)

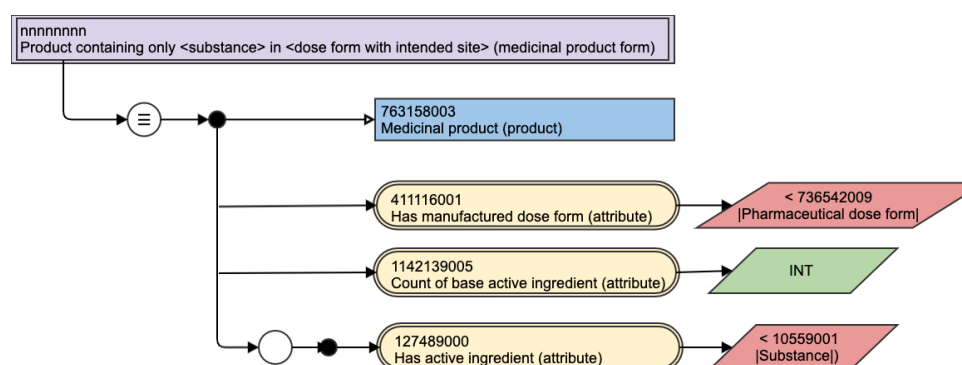
### Definition of MPF (only)

An abstract representation of a medicinal product based on description of only and exclusively the active ingredient(s) it contains and on the (generalised) intended site of use for the product.

For example, "Product containing only amoxicillin in oral dose form (medicinal product form)" represents products that must contain only amoxicillin (be it amoxicillin sodium or amoxicillin trihydrate), with no other active ingredients in manufactured dose forms such as oral suspension, oral capsule (any type), oral tablet (any type).

### Example diagrams for MPF (only)

Stated template view:



**Figure 25: Medicinal Product Form (only) stated template view**

**Example:** single active ingredient product, oral dose form: stated view followed by the inferred view that shows the proximal parent concepts associated with the product:

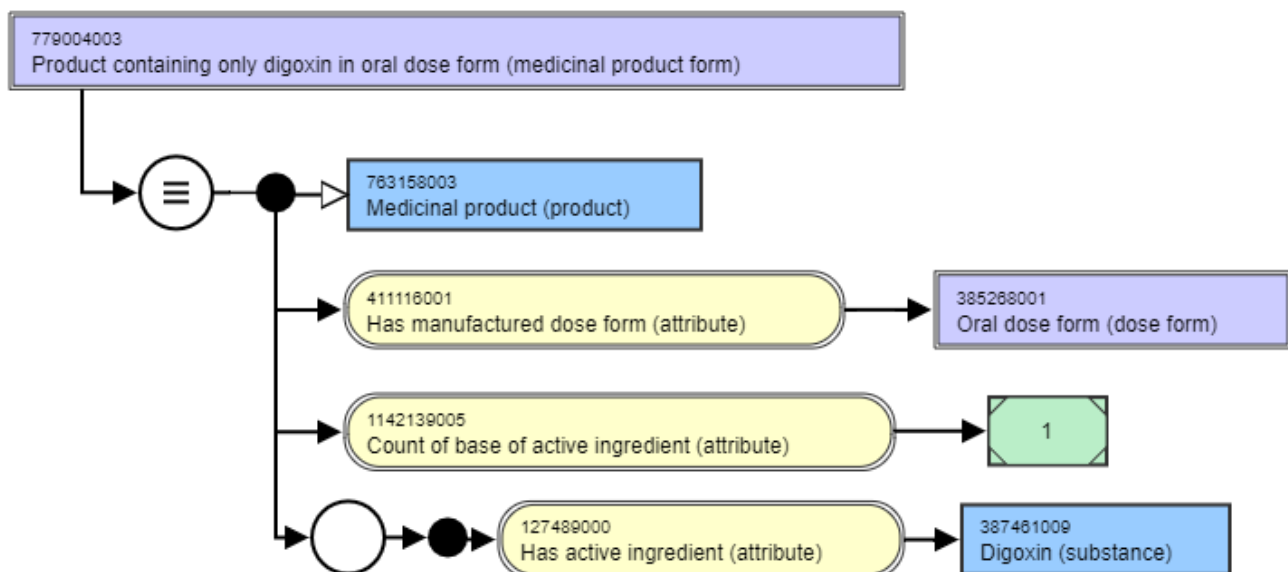


Figure 26: Medicinal Product Form (only) example stated view

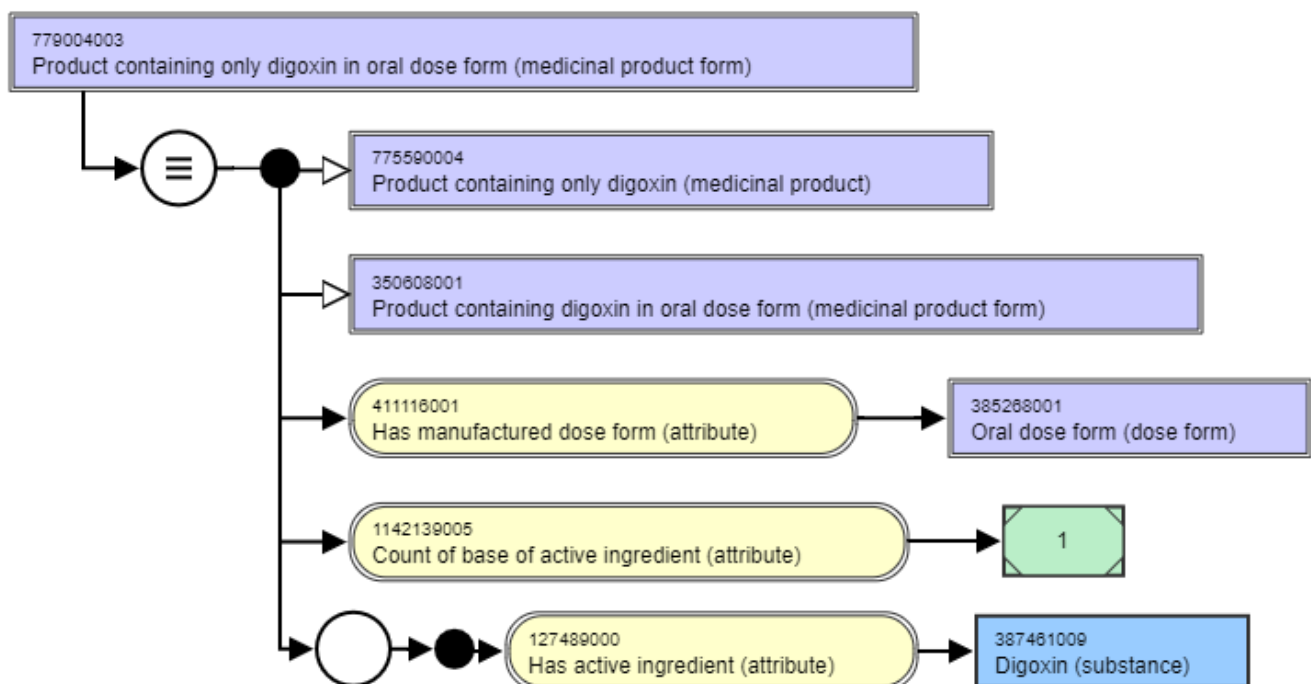


Figure 27: Medicinal Product Form (only) example inferred view

### Attributes of MPF (only)

The "Medicinal Product Form (only) " (MPF only) concept is defined by attributes to describe the active ingredient(s), the ingredient count and the dosage form intended site grouper:

Semantic tag	(medicinal product form)
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<b>Definition status</b>		<ul style="list-style-type: none"> <li>900000000000073002  Sufficiently defined concept definition status </li> </ul> <b>Exceptions</b> <ul style="list-style-type: none"> <li>None identified</li> </ul>
<b>Role Group</b>	<b>Attribute</b> 127489000  Has active ingredient	<ul style="list-style-type: none"> <li><b>Range</b> <ul style="list-style-type: none"> <li>&lt; 105590001  Substance  <ul style="list-style-type: none"> <li>Excluding concepts representing structural groupers, dispositions, or combined substances</li> </ul> </li> </ul> </li> </ul> <b>Cardinality</b> <ul style="list-style-type: none"> <li>1..* -</li> </ul> <b>Notes</b> <ul style="list-style-type: none"> <li>There is no technical limit on the number of Has active ingredient attributes that may be added to a concept; a practical limit may be imposed at a later date</li> <li>For content in the International Release, this attribute value should represent the base ingredient, not a modification, unless explicitly identified as an exception.</li> <li>This attribute describes the set of active ingredient substances that the concept minimally contains. A set set of active ingredient substances may well have only one member</li> </ul>
<b>Attribute</b> 411116001  Has manufactured dose form		<b>Range</b> <ul style="list-style-type: none"> <li>&lt; 736542009  Pharmaceutical dose form  <ul style="list-style-type: none"> <li>Only descendants that are groupers representing intended site only (e.g. 385268001   Oral dose form (dose form)  , 385287007   Parenteral dose form (dose form)  )</li> </ul> </li> </ul> <b>Cardinality</b> <ul style="list-style-type: none"> <li>1..1</li> </ul> <b>Notes</b> <ul style="list-style-type: none"> <li>This attribute describes a grouping dose form concept for the medicinal product, where the grouping is the intended site for administration of the dose form of the product</li> </ul>
<b>Attribute</b> 1142139005  Count of base of active ingredient		<b>Range</b> <ul style="list-style-type: none"> <li>INT (integer)</li> </ul> <b>Cardinality</b> <ul style="list-style-type: none"> <li>1..1</li> </ul> <b>Note</b> <ul style="list-style-type: none"> <li>This attribute provides the number of base active ingredient substances present in the medicinal product</li> </ul>

For concepts that have two or more active ingredient substances that are modifications of the same base substance, and where MP precisely concepts are required, and for single ingredient product concepts where the active substance is an ingredient in these multiple modification multi-ingredient products, the following extra ingredient count attribute will be required in order to support correct relationships generated by the MRCM:

<b>Attribute</b> 1142141006  Count of base and modification pair	<b>Range</b> <ul style="list-style-type: none"> <li>INT (integer)</li> </ul> <b>Cardinality</b> <ul style="list-style-type: none"> <li>1..1</li> </ul>
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For concepts that have two or more active ingredient substances that are modifications of the same base active ingredient substance (i.e. parent ingredient substance) **and where** one is a further modification of the other (for example, a multi-ingredient product containing both dexamethasone phosphate and dexamethasone sodium phosphate, where the dexamethasone phosphate is a modification of dexamethasone (base) and dexamethasone sodium phosphate is a further modification of the dexamethasone phosphate) and where MP precisely concepts are required, and for single ingredient product concepts where the active substance is an ingredient in these multiple modification multi-ingredient products, the following extra ingredient count attribute will be required in order to support correct relationships generated by the MRCM:

<b>Attribute</b> 1142140007  Count of active ingredient	<b>Range</b>
	<ul style="list-style-type: none"> <li>• INT (integer)</li> </ul>
	<b>Cardinality</b>
	<ul style="list-style-type: none"> <li>• 1..1</li> </ul>

As described in the MRCM rules, for practical and pragmatic reasons the additional ingredient count attributes have to be applied iteratively based on requirement.

## Use cases supported by MPF (only)

There are several use cases that the MPF (only) concept can support:

- Internationally and nationally in decision support (especially drug interaction checking) and in protocols and treatment guidelines
- Internationally and nationally for interoperability of patient medication information such as in patient summaries and medication profiles, where patient information may only be available in using an abstract description (e.g. "patient reports they were taking oral captopril for 5 years")
- Internationally for the provision of cross border care, where a particular formulation of a medicinal product from one jurisdiction may not be present in a second jurisdiction; the MPD (only) class can support finding alternatives
- In pharmacovigilance, especially for description of concomitant medications where less information may be available (see also below in IDMP Compatibility)
- In analysis and research
- As a supporting attribute for other concepts elsewhere in SNOMED CT

## Availability of MPF (only) concepts in the international edition

This class forms part of the medicinal product content provided in the international edition.

## IDMP Compatibility

A concept at this level, despite using the universal restriction, does not directly correspond to any concept currently in the IDMP suite of standards.

The Level 3 Pharmaceutical Product concept (PhPID\_SUB\_C3) uses a granular *administrable dose form concept* for a product which will have an intended site of administration (bearing in mind that the exact implementation of ISO 11616 is not yet known). The MPF uses a more abstract dose form grouping concept where the grouping is on the basis of the intended site of administration for *manufactured* dose form (with some exceptions for oral antibiotic products that are supplied as powders/granules but dispensed to patients as solutions/suspensions). However, there should be little difference in the intended site of administration between a manufactured dose form and its administrable form for those dose forms that do not require transformation. For some groups of products, the MPF (only) concept has the potential to bring additional value to users beyond PhPID\_SUB\_C3 because it is a larger grouping concept.

For example, the dose form intended site concept 385276004 |Ocular dose form (dose form)| covers 14 more granular pharmaceutical dose forms, of which two would undergo transformation to different administrable dose forms, but still with the ocular intended site. This means that the single MPF grouping concept will be relevant to a considerably larger group of actual products than the 12 potential PhPID\_SUB\_C3 concepts for the same active ingredient substance(s) that might exist in IDMP.

As with the Medicinal Product (only) concept, the granularity of description of substance for the PhP3 is not completely clear, but may well be more granular than that used for the MPF (only) concept.

## Medicinal Product Form (MPF precisely) (closed world view)

This concept class, which is not shown in any of the overall diagrams in the introductory section, would be a representation of a medicinal product based on description of only and exclusively the precise active ingredient(s) it contains and on the (generalised) intended site of use for the product. For example, "Product containing precisely amoxicillin trihydrate in oral dosage form" represents products that must contain only amoxicillin trihydrate (not amoxicillin sodium or amoxicillin base) as the precise ingredient substance, with no other active ingredients in manufactured dose forms such as oral suspension, oral capsule (any type), oral tablet (any type). This class is not part of the international edition, but may be of use in national extensions. It would be modelled in the same way as the MPF only, but would use the precise active ingredient attribute and the two additional ingredient count attributes if and when required, using the same rules as for MP precisely.