

Specification Builder

Set tests and acceptance criteria, check them against ICH Q6A and the impurity thresholds for your maximum daily dose, and write the specification, analytical procedures, justification and excipient sections.

WRITES

3.2.S.4.1

3.2.S.4.2

3.2.S.4.5

3.2.P.4

3.2.P.5.1

3.2.P.5.2

3.2.P.5.6

PRODUCT TYPE

Small molecule

**GUIDANCE IT
FOLLOWS**

ICH Q6A, Q3A(R2),
Q3B(R2), Q3C(R9),
Q3D(R2); FDA
nitrosamine
guidance (Rev. 2,
2024)

TIME TO LEARN

About 20 minutes
with the example

Open the tool at <https://app.cmcfy.com/app/specification-builder.html>. This guide is also online at <https://cmcfy.com/guides/specification-builder.html>

1. What this module does

The module writes 3.2.S.4.1, 4.2 and 4.5 for a drug substance, or 3.2.P.5.1, 5.2, 5.6 and 3.2.P.4 for a drug product. It works out the ICH Q3A or Q3B reporting, identification and qualification thresholds from your maximum daily dose and checks every impurity limit against them.

It also checks that the tests ICH Q6A expects for the dosage form are present, that residual solvent limits meet ICH Q3C, and that every non-compendial method has a procedure summary.

What you get

- Word or PDF files for the specification, analytical procedures, justification of specification and control of excipients.
- A summary file that the Batch Analysis & CoA, Development Studio and QOS Composer & Dossier Assembler can read.

2. Before you start

Have these ready. You can still start with the example data and replace it piece by piece.

- Maximum daily dose of the drug substance (mg/day) and the dosage form.
- Each test with method reference, acceptance criterion and, ideally, the range of batch results.
- Each impurity with its type (specified identified, specified unidentified, unspecified, total), limit, maximum found and any qualified level from toxicology.
- Residual solvents and limits; method summaries with system suitability; excipients with their quality standard and origin.
- Status of the ICH Q3D and nitrosamine risk assessments.

Your data stays on your computer. The bar under the title counts every network request the page makes; it stays at 0 because your data never leaves your computer. [Download offline](#) [copy](#) saves a single file that opens from your own computer with all network access blocked, for air-gapped PCs.

3. Step by step with the example

Open the tool at app.cmcfy.com/app/specification-builder.html. The example is loaded when the page opens, so every panel already has realistic data. Follow the steps to see how it works, then replace the example with your own data.

1 Enter product and dose

Choose drug product or drug substance, the dosage form and the [Maximum daily dose](#). Say whether the ICH Q3D and nitrosamine risk assessments are done. The headline shows the thresholds for your dose: for 100 mg/day, reporting 0.1%, identification 0.2%, qualification 0.2%.

CMCfy Specification Builder Projects All modules Training Security Runs entirely on this device Training guide Protocol builder

PROJECTS Keep this work in a project, with version history and your company logo on every report. Choose projects folder Keep in this browser

- Network requests since load: 0**
Counted live by your browser. Your data never leaves this device.
- Works offline**
Everything the tool needs is inside this page.
- Locked offline copy**
Save a single file that opens from your own computer with all network access blocked.

3.2.S.4.1 3.2.S.4.2 3.2.S.4.5 3.2.P.4 3.2.P.5.1 3.2.P.5.2 3.2.P.5.6 Save project Open project Start blank Load example

Set tests and acceptance criteria, check them against ICH Q6A and the impurity thresholds for your maximum daily dose, and write the specification, analytical procedures, justification and excipient sections.

Guidance: ICH Q6A, Q3A(R2), Q3B(R2), Q3C(R9), Q3D(R2); FDA nitrosamine guidance (Rev. 2, 2024)

1 · PRODUCT AND DOSE

Specification for Submission region

Drug product (3.2.P.5) US: FDA (NDA, ANDA, BL)

Product or substance name

CMX-101 Tablets, 50 mg

Dosage form Maximum daily dose of drug substance (mg/day)

Solid oral (tablet, capsule) 100

Elemental impurities (ICH Q3D)

Risk assessment done; no routine test needed

Nitrosamines

Risk assessment done; no risk identified

RESULT

9 tests · 5 impurity limits

Impurity thresholds for 100 mg/day (ICH Q3B(R2) for an MDD of 100 mg): reporting 0.1%, identification 0.2%, qualification 0.2%.

SECTIONS	REQUIRED TESTS PRESENT	PROCEDURES
3.2.P.5.1, 3.2.P.5.2, 3.2.P.5.6, 3.2.P.4	8 of 8	4 summarised

Q3D
Risk assessed

REQUIRED TESTS (ICH Q6A)

TEST	REQUIRED BY	IN YOUR SPECIFICATION
Description	ICH Q6A 3.2.1(a)	Present
Identification	ICH Q6A 3.2.1(b)	Present

2 Enter the specification

One test per line with method and acceptance criterion. Batch results (lowest to highest) are optional but make the justification much stronger.

3 Enter impurity limits and solvents

Enter each impurity with its type and limit. The tool compares each limit with the thresholds and with the batch data.

REQUIRED TESTS (ICH Q6A)

TEST	REQUIRED BY	IN YOUR SPECIFICATION
Description	ICH Q6A 3.2.1(a)	Present
Identification	ICH Q6A 3.2.1(b)	Present
Assay	ICH Q6A 3.2.1(c)	Present
Degradation products	ICH Q6A 3.2.1(d); ICH Q3B(R2)	Present
Dissolution (or disintegration)	ICH Q6A 3.3.2.1(a)	Present
Uniformity of dosage units	ICH Q6A 3.3.2.1(c); USP <905>	Present
Water content	ICH Q6A 3.3.2.1(d)	Present
Microbial limits	ICH Q6A 3.3.2.1(e), decision tree 8	Present

Required tests by ICH Q6A for the dosage form.

4

Resolve alerts

The example has deliberate problems: an impurity limit above the qualification threshold with no qualified level, an unspecified impurity limit above the identification threshold, dichloromethane at 800 ppm against the Q3C limit of 600 ppm, a chromatographic method with no system suitability, and two excipients that need extra information.

ALERTS TO RESOLVE

6 alerts to fix, justify, or proceed without before export. It is your call: "Proceed without it" lets you continue when the information is not available.

MAJOR

Desmethyl CMX-101: limit 0.3% is above the qualification threshold (0.2%) and no qualified level at or above it is given.

Impurities - ICH Q3B(R2) 6

Give the qualified level from toxicology or clinical batches, or lower the limit.

Justification Accept justification Proceed without it

MAJOR

Any unspecified degradation product: limit 0.3% is above the identification threshold (0.2%).

Impurities - ICH Q3B(R2) 5

Set the unspecified limit at or below 0.2%.

Justification Accept justification Proceed without it

MAJOR

Dichloromethane: proposed limit 800 ppm is above the Q3C Option 1 limit of 600 ppm.

Residual solvents - ICH Q3C(R9) 4

Lower the limit to 600 ppm, or justify it with Option 2 (PDE and actual daily dose).

Justification Accept justification Proceed without it

MAJOR **AM-0144 is chromatographic but has no system suitability criteria.**

Analytical procedures - USP <621>; ICH Q2(R2)

Add system suitability (for example resolution, tailing, %RSD of replicate injections).

Justification Accept justification Proceed without it

MAJOR **Lactose monohydrate is of animal origin.**

Excipients - ICH M4Q 3.2.P.4.5; EMA/410/01

Give TSE/BSE information (EDQM CEP or supplier statement, source animals and country) in 3.2.P.4.5 and 3.2.A.2.

Justification Accept justification Proceed without it

MAJOR **Opadry II White 85F18422 uses an in-house standard.**

Excipients - ICH M4Q 3.2.P.4

5

Read the narratives

The justification of specification and of impurity limits are written from your data, citing the thresholds and batch results. Edit them, or use AI to polish the wording.

NARRATIVE

CMCfy writes each narrative from your data using fixed rules. You can edit it, or have AI rewrite it in regulatory style. Any number that does not match your data is flagged and blocks export.

[Rewrite with AI](#)[Reset to rule-based text](#)

Justification of specification

RULE-BASED

The specification for CMX-101 Tablets, 50 mg controls the identity, strength, purity and performance of the drug product. Tests and acceptance criteria were selected according to ICH Q6A and are supported by the batch data presented in 3.2.P.5.4 and the stability data in 3.2.P.8.

Justification of impurity limits

RULE-BASED

For a maximum daily dose of 100 mg, the ICH Q3B(R2) thresholds are: reporting 0.1%, identification 0.2% and qualification 0.2%.

CMX-101 N-oxide: limit 0.5%, highest batch result 0.21%. The limit is above the qualification

6**Preview and download**

Preview 3.2.P.5.1, 5.2, 5.6 and 3.2.P.4, check the review, and download. Save the summary for the batch analysis and QOS.

ICH Q3A and are supported by the batch data presented in 3.2.P.5.4 and the stability data in

Preview and review before download Close

Review
Checked on this device: gaps in the data, gaps in the report against ICH and regional expectations, and differences from the protocol.

6 to fix 1 recommended

DATA AND INPUTS (7)

Desmethyl CMX-101: limit 0.3% is above the qualification threshold (0.2%) and no qualified level at or above it is given.
Give the qualified level from toxicology or clinical batches, or lower the limit.
major · Impurities · ICH Q3B(R2) 6 Ignore

Any unspecified degradation product: limit 0.3% is above the identification threshold (0.2%).
Set the unspecified limit at or below 0.2%.
major · Impurities · ICH Q3B(R2) 5 Ignore

Dichloromethane: proposed limit 800 ppm is above the Q3C Option 1 limit of 600 ppm.
Lower the limit to 600 ppm, or justify it with Option 2 (PDE and actual daily dose).
major · Residual solvents · ICH Q3C(R9) 4 Ignore

AM-0144 is chromatographic but has no system suitability criteria.
Add system suitability (for example resolution, tailing, %RSD of replicate injections).

3.2.P.5.1 Specification(s)
CMX-101 Tablets, 50 mg · US (FDA)

The drug product specification for CMX-101 Tablets, 50 mg is given in Table 1. The acceptance criteria apply at release and throughout the shelf life unless stated otherwise.

Table 1. Specification

Test	Analytical procedure	Acceptance criterion
Description	Visual	White, round, biconvex film-coated tablet
Identification (HPLC)	AM-0142	Retention time of the main peak matches the reference standard
Identification (UV)	AM-0143	UV spectrum matches the reference standard
Assay (HPLC)	AM-0142	95.0–105.0% of label claim
Degradation products (HPLC)	AM-0144	
CMX-101 N-oxide		NMT 0.5%
Desmethyl CMX-101		NMT 0.3%
Unknown at RRT 1.32		NMT 0.2%
Any unspecified degradation product		NMT 0.3%
Total degradation products		NMT 1.5%
Dissolution	AM-0150	Q = 80% in 30 minutes
Uniformity of dosage units	USP <905>	Meets USP <905> (AV ≤ 15.0)
Water (KF)	USP <921>	NMT 3.0%
Microbial limits	USP <61>/<62>	TAMC NMT 1000 cfu/g; TYMC NMT 100 cfu/g; absence of E. coli

Residual solvents

Acceptance criteria

Fix or justify the 6 blocking alerts before downloading. Or choose "Download anyway".

Download anyway Download Word (.docx) Download PDF

4. Field reference

Every input in the tool, panel by panel. Tables accept rows pasted straight from Excel, comma-separated text, or a loaded file; check the columns after loading a file. Fields marked “when it applies” appear only for the choices that need them.

1 · Product and dose

FIELD	WHAT TO ENTER
Specification for	Choose one: Drug product (3.2.P.5); Drug substance (3.2.S.4).
Submission region	Choose one: US: FDA (NDA, ANDA, BLA, IND); EU: EMA and national agencies (MAA); Both US and EU.
Product or substance name	Type it in.
Dosage form when it applies	Choose one: Solid oral (tablet, capsule); Oral liquid; Parenteral (injection); Other.
Maximum daily dose of drug substance (mg/day)	Sets the ICH Q3A/Q3B thresholds and the elemental and residual solvent context. Type a number.

FIELD	WHAT TO ENTER
Elemental impurities (ICH Q3D)	Choose one: Risk assessment done; no routine test needed; Risk assessment done; controlled by a test; Risk assessment not done yet.
Nitrosamines	Choose one: Risk assessment done; no risk identified; Risk identified; nitrosamine controlled in this specification; Risk assessment not done yet.

2 · Specification

One test per line. Batch results (lowest to highest) are optional but make the justification much stronger.

FIELD	WHAT TO ENTER
Tests	A table. Columns: Test Method Acceptance criterion Batch results (min–max). Paste rows from Excel, type comma-separated rows, or press Load file (Excel, CSV, Word, PDF or a scan).

3 · Impurity limits

Use % relative to the drug substance. Qualified level is the highest level shown safe in toxicology or clinical studies, if known.

FIELD	WHAT TO ENTER
Impurities	Limits and results in % relative to the drug substance. A table. Columns: Impurity Type (specified identified / specified unidentified / unspecified / total) Limit (%) Max found in batches (%) Qualified level (%). Paste rows from Excel, type comma-separated rows, or press Load file (Excel, CSV, Word, PDF or a scan).

4 · Residual solvents

FIELD	WHAT TO ENTER
Solvents controlled	A table. Columns: Solvent Limit (ppm). Paste rows from Excel, type comma-separated rows, or press Load file (Excel, CSV, Word, PDF or a scan).

5 - Analytical procedures

Every non-compendial method in the specification needs a procedure summary for 3.2.S.4.2 or 3.2.P.5.2.

FIELD	WHAT TO ENTER
Procedures	A table. Columns: Method ID Technique Column or instrument Key conditions System suitability. Paste rows from Excel, type comma-separated rows, or press Load file (Excel, CSV, Word, PDF or a scan).

6 - Excipients (3.2.P.4) shown when it applies

FIELD	WHAT TO ENTER
Excipients	A table. Columns: Excipient Quality standard Origin (synthetic / vegetable / mineral / animal) Novel (yes/no). Paste rows from Excel, type comma-separated rows, or press Load file (Excel, CSV, Word, PDF or a scan).

5. Checks and alerts

Calculations and pass/fail outcomes always come from fixed rules, never from AI. The tool checks:

- Every test has an acceptance criterion and a method reference; the tests ICH Q6A expects for the dosage form are present.
- Assay range no wider than 95.0–105.0% for a drug product without justification; dissolution criterion gives a Q value and a time point.
- Limits for total and for unspecified impurities; each limit against the reporting, identification and qualification thresholds for the dose; batch results above a proposed limit are critical; limits more than three times the highest batch result are flagged.
- Residual solvents against ICH Q3C Option 1; Class 1 solvents flagged.
- ICH Q3D and nitrosamine risk assessments done; when a risk needs a test, the test is in the specification.
- Every method has a procedure summary; chromatographic methods have system suitability criteria.
- Excipients of animal origin, in-house standards, novel excipients and missing quality standards are flagged for 3.2.P.4.

How to resolve alerts

- **Critical** alerts block the download and must be fixed in the data. A failing result can instead be linked to an investigation: type the investigation reference and outcome and press [Record](#).

- **Major** alerts block the download until you fix them or type a justification and press **Accept justification**.
- **Minor** alerts do not block anything. They are listed in the documents so the reviewer sees them.
- Some alerts have an **Apply fix** button that makes the change for you. **Reopen** undoes a justification.

Narratives

This module writes: Justification of specification; Justification of impurity limits. Each narrative is written by fixed rules from your data. You can edit it in the box. **Rewrite with AI** (where your plan includes AI) rewrites it in regulatory style; every number in the text is checked against your data, and a number that does not match is flagged under the box and blocks the download until you correct it.

Reset to rule-based text brings back the original.

6. Preview, gap review and download

1. Press **Preview** next to a section, or **Preview and download all**. The document opens in a preview window, exactly as the Word file will read.
2. The left side lists the review, run on your device: **gaps in the data** (missing values, open alerts), **gaps in the report** (missing content the guidance expects, placeholders such as [site] or TBD left in the text) and, if you load the approved protocol under **Compare with the protocol**, **differences from the protocol** (requirements, criteria, batches or time points it plans that the report does not show).
3. Click a finding to jump to the place in the preview. Fix it in the tool, then preview again.
4. Optional **AI review**: a second read for contradictions, claims without data and vague wording. The report text is sent to Claude only when you press it, and only where your plan includes AI. Check every AI finding; AI can be wrong.
5. Press **Download Word (.docx)** or **Download PDF**. With several documents open, **All as Word (.zip)** and **All as PDF (.zip)** download the set. The download buttons stay disabled while a blocking alert is open; the preview still works.

Documents this module produces

SECTION	DOCUMENT
3.2.P.5.1 / 3.2.S.4.1	Specification(s)
3.2.P.5.2 / 3.2.S.4.2	Analytical procedures
3.2.P.5.6 / 3.2.S.4.5	Justification of specification(s)
3.2.P.4	Control of excipients (drug product)

Use **Save project** to keep your work as a file on your computer, and **Open project** to continue later. **Start blank** clears every field; **Load example** brings the example back. Nothing is stored on CMCfy servers.

7. US and EU submissions

US mode cites USP general chapters (for example USP <905> uniformity of dosage units, <711> dissolution). EU mode maps them to Ph. Eur. (2.9.40, 2.9.3) and flags any method that cites USP/NF only. Choose **Both US and EU** to cite both. The ICH thresholds are the same in both regions.

8. Working with other modules

- Add this summary in the Batch Analysis & CoA under **Specification from Specification Builder**: its tests replace the specification table there.
 - The Development Studio uses it to confirm that critical attributes have a test.
 - Impurity assessments (M7, nitrosamines, Q3D) are written in the Impurity & Risk Studio.
 - Excipients needing more than a compendial reference are written in full in the Excipients Writer module.
-

9. Common pitfalls

- Entering the dose per unit instead of the maximum daily dose. The thresholds depend on the daily dose.
 - Proposing limits far above batch experience with no justification; reviewers ask for limits based on data.
 - Leaving "Risk assessment not done yet" for Q3D or nitrosamines at submission; both are expected.
 - Using different test names here and in the batch analysis. Batch results are matched to tests by name.
-

10. Practice exercises

Each exercise starts from the example (press **Load example** to reset). We run these on every update of this guide, so the result you see should match.

1. **See the thresholds move with the dose**

Change **Maximum daily dose of drug substance (mg/day)** to 2000.

EXPECTED RESULT

The headline note now gives the thresholds for 2000 mg/day: reporting 0.05%.

2. **Mark the nitrosamine risk assessment as not done**

Set **Nitrosamines** to "Risk assessment not done yet".

EXPECTED RESULT

A major alert says the nitrosamine risk assessment is not done.

3. **Fix the residual solvent limit**

In **Solvents controlled**, change dichloromethane from 800 to 600 ppm.

EXPECTED RESULT

The alert about the Q3C Option 1 limit of 600 ppm is gone.

Guide updated 28 October 2026 for the current version of the tool. CMCfy drafts are for review by a qualified person before use in a submission.