



THE INGREDIENTS AND DRY MIXES GUIDE

Verified materials. Precise blends. On-spec for every customer.

From supplier certificate to customer certificate, lot by lot

A capability and evaluation guide for seasoning, bakery-mix, premix, dry beverage and ingredient blenders who want certificates, micro-ingredient weights, blend steps, sieve and metal checks, lot splits and customer specifications in one connected record.



SUPPLIER CERTIFICATES

MICRO-INGREDIENTS

CUSTOMER SPECIFICATIONS

INSIDE THE GUIDE

Sack to customer bag, addition by addition.

A dry blend is often a few base materials and many small ones, made to someone else's specification and sold as an ingredient to another manufacturer. This guide follows one lot through that chain.

01 / FRAME

pp. 03–05

Rules and your place in the chain

U.S., EU, UK, Canada and Codex; selling to manufacturers; one blending day.

02 / MATERIALS

pp. 06–10

Specification to released sack

Specs and supplier approval, when a certificate is enough, goods-in, sampling and identity, status and part-used bags.

03 / MAKE

pp. 11–17

Formula to filled bag

Formula, allergens and additives; micro-ingredients and premix; blend sequence; combustible dust; sieves, magnets and detectors; lab and customer spec; lot splits.

04 / DECIDE

pp. 18–21

Correct, verify, improve

Corrections and corrective actions, record review, complaints and CAPA, people.

05 / SUSTAIN

pp. 22–27

Assets, trace, share

Scales and calibration, OEE and changeover loss, trace both ways, a timed mock recall, portals, data and AI.

06 / APPLY

pp. 28–37

Evidence map, tools, sources

Evidence map, four worksheets, roadmap, four-week evaluation and twenty-two linked sources.

Who it is for. Technical, quality and food safety managers, production and blending leads, warehouse and purchasing teams, and anyone choosing a production and quality system for seasonings, coatings, bakery and dessert mixes, beverage powders, nutrient premixes or blended ingredients sold to food manufacturers or retail.

How to read it. Every operational page ends with a teal Where V5 fits panel. Everything above it is practice and regulation, useful whether or not you ever use V5. Regulatory statements cite numbered sources; check the current text for your products, sites and markets.

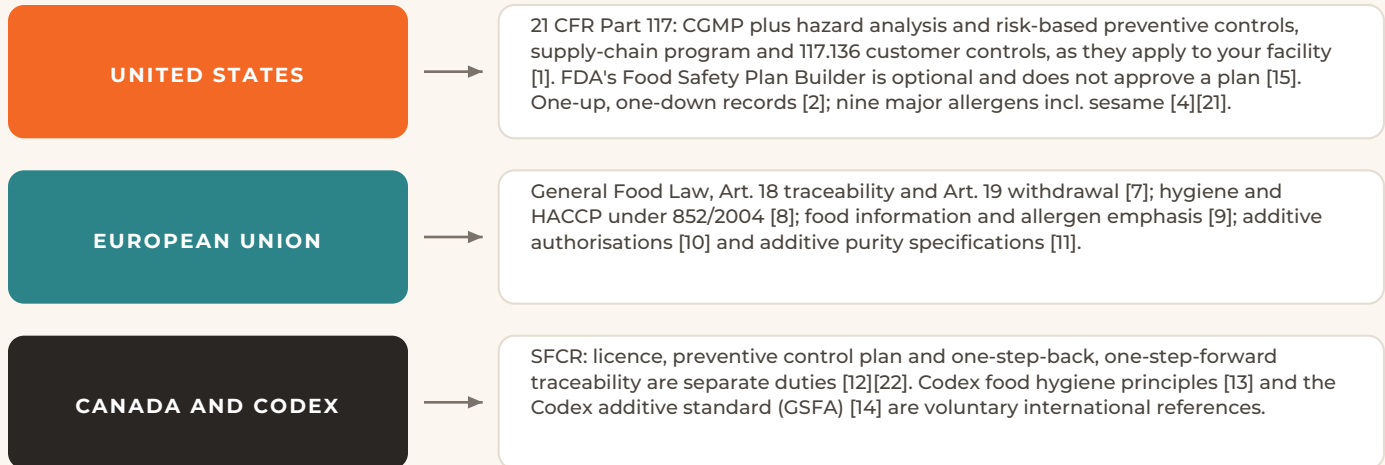
WHERE V5 FITS

V5 records the purchasing, weighing, blending, testing and quality work your food safety plan and customer agreements define. It does not write your hazard analysis, decide whether a supplier certificate is enough, approve additive use, release a lot or decide to recall. Those stay with your qualified people.

FRAME / 01

Food law, additive law, customer law.

A blender usually answers to a hygiene and hazard-control regime, a general food law with traceability, labelling rules, and additive rules. On top sit your customers' specifications, which are contracts, not law.



Additives are permitted, not assumed

In the EU, only additives on the Union list may be used, in the food categories and at the levels set for them [10], and they must meet the purity specifications [11]. Your customer's food category matters.

Customer specifications

Particle size, moisture, colour, micro limits, salt or sugar ranges and pack format are usually contractual. Record them per customer and revision.

Write the scope down

Products, sites, markets and which rules apply, in a controlled document. Revisit it when a formula, customer or market changes.

WHERE V5 FITS

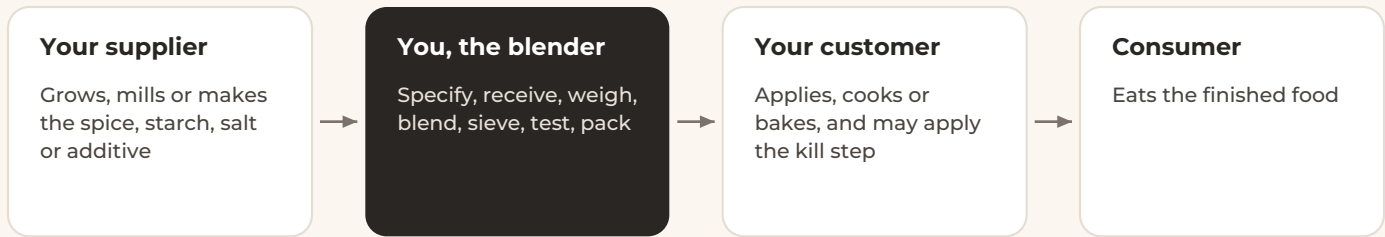
Keep scope, food safety plans and procedures as controlled documents with revisions, owners and review dates. V5 industry packs adjust wording, screens and reports for food work; they do not decide which rules or additive permissions apply to you.

Sources: [1], [2], [4], [7], [8], [9], [10], [11], [12], [13], [14], [15], [21], [22] (linked on pages 35–37)

FRAME / 02

You sit in the middle of the chain.

Many blends are not eaten as they leave you. A seasoning goes onto crisps; a bakery mix is baked. U.S. Part 117 has specific rules for when the control of a hazard happens after your gate.



WHEN YOUR CUSTOMER CONTROLS THE HAZARD

Under 117.136(a)(2), a manufacturer need not implement a preventive control for a hazard when it relies on a customer subject to Part 117 to control it, discloses in documents accompanying the food that it is “not processed to control [identified hazard]”, and annually obtains written assurance from the customer [1].

Example: an untreated spice blend sold to a snack maker who applies a validated heat step.

WHAT THAT MEANS IN THE RECORD

- The disclosure statement on the documents that ship with each lot
- Each customer's written assurance, with its date and renewal
- Which products and customers rely on 117.136, and which do not
- 117.137: a facility giving an assurance acts on it and documents that [1]

It is a decision, not a default. Whether 117.136 applies is part of your hazard analysis and a preventive controls qualified individual's call. If a customer sells your blend straight to consumers, or sprinkles it after cooking, it may not apply at all.

WHERE V5 FITS

Customer specifications and requirements can sit with the customer record, and written assurances can be kept as controlled documents with review dates; shipment documents can carry the text you approve. V5 does not decide whether a hazard can be left to your customer.

Sources: [1] (linked on pages 35–37)

FRAME / 03

One blending day.

A worked example: lot DM-3390, a smoked paprika seasoning for Customer 17, formula revision 8, run after a wheat-containing coating mix on the same ribbon blender. Follow it through every handover.

05:50	Allergen changeover after the wheat coating: dry clean, inspect, verify, sign off
06:30	Pre-start: scale checks, metal detector test pieces, sieve screen intact
06:45	Micro-ingredient premix weighed in the dispensing booth; lots scanned
07:20	Base salt and sugar charged at the bag-tipping station
07:40	Premix and spices added in formula order; 12-minute blend
08:10	Sieve check finds a torn screen; correction and look-back recorded
09:00	Lab sample for moisture, colour and micro; bagging to 25 kg starts
13:30	Results reviewed against Customer 17 spec; certificate prepared

One record grows

Changeover, premix, charge, blend, sieve and lab steps add to one lot record, so review starts from the full day.

Small weights matter most

A 450 g flavour enhancer in a 1,000 kg blend is easy to miss or double. It gets its own weighing and scan.

A torn screen is a question

Which lots passed the sieve since the last good check? The record should answer that in minutes.

WHERE V5 FITS

Work orders sit on the schedule with formula revision, blender and allergen profile. Kiosk steps capture who did what, with which lots, scales and values, and the lot record assembles as the blend runs.

Sources: [1] (linked on pages 35–37)

MATERIALS / 01

Specify it, then approve who sends it.

Dry ingredients bring familiar hazards: pathogens in low-moisture foods, undeclared allergens, foreign matter, adulteration and substitution. Your hazard analysis decides which are controlled by you, your supplier or your customer.

Identity Name, botanical or chemical identity, grade, origin where it matters	Composition Assay or active content, moisture, particle size, colour	Safety Micro limits, contaminants, foreign matter, allergens and cross-contact	Additive status Permitted use and purity specification where applicable [10][11]	Pack and label Pack type, lot code format, shelf life, storage
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A MATERIAL SPECIFICATION HAS FIVE PARTS

Supply-chain program When your hazard analysis relies on a supplier to control a hazard, Part 117 Subpart G expects approved suppliers, verification activities chosen for the hazard, and records [1].	Approve before receipt 117.420 requires approval of suppliers, documented, before raw materials and other ingredients are received from them [1]. Temporary use of unapproved suppliers needs its own controls.	Change notices Ask suppliers to tell you when origin, process, site, carrier or allergen status changes. Many recalls in dry ingredients start with a quiet change upstream.
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WHERE V5 FITS
Approved supplier lists, qualification, scorecards and material specifications sit with purchasing and receiving, so an unapproved source is visible at goods-in. Supplier audits route findings to SCAR or CAPA, and suppliers can upload certificates and change notices through the supplier portal where configured.

MATERIALS / 02

When is a supplier certificate enough?

A certificate of analysis tells you what the supplier says they found. Whether you can rely on it, test yourself, or both, is a decision your plan makes per material and supplier.

PARAMETER	YOUR SPEC	SUPPLIER COA	CHECK
Lot	—	PP-21877	
Moisture	10.0 %	8.6 %	OK
Colour (ASTA)	120–150	138	OK
Salmonella	Not detected in 375 g	Not detected	OK
Aflatoxin B1	your limit	Reported	OK
Allergens	None declared	None declared	OK
Method stated	Required	Missing for colour	OPEN

Worked example. Limits, methods and sampling plans are your specification decisions, not regulatory values.

Trust, then verify

Decide which materials and suppliers have a track record that supports reduced testing, and schedule periodic confirmation tests to keep that trust honest.

Read the method too

A number without a method, unit, sample size or lab is weaker evidence. Ask for them in the specification.

Watch for substitution

Colour, origin and price anomalies in spices and high-value ingredients deserve a second look. Identity checks catch what certificates can miss.

WHERE V5 FITS

Certificate values can be read from a PDF or photo by AI and placed against your specification for a person to confirm; AI never accepts a lot. Lots can start on hold until a reviewer accepts the certificate, and missing items stay open on the receipt.

MATERIALS / 03

Goods-in creates the first link.

Paper sacks, bulk bags, drums and tote bins arrive with their own lot codes, or none. What is recorded at the dock starts every trace you will ever run.



One step back

Part 1 Subpart J requires records of the immediate previous source of food you receive [2]; EU Art. 18 and Canada's SFCR have similar one-step duties [7][12].

Check, then accept

Seal, pest activity, wet or torn sacks, labels against the order and the approved supplier list.

Listed foods?

A few dry items may contain foods on FDA's Food Traceability List; check whether Subpart S applies to yours [6].

WORKED EXAMPLE: ONE RECEIPT

Item	Smoked paprika, 1,000 kg, 40 × 25 kg sacks
Supplier / supplier lot	Approved supplier S-208 / PP-21877
Internal lot	IN-5521, linked to PP-21877
Condition	2 sacks scuffed, intact; photo attached
Status at receipt	On hold pending CoA review and identity check

WHERE V5 FITS

Receiving records supplier, supplier lot, internal lot, quantity, pack count, expiry and condition against the purchase order, with photos. Lots can start on hold where configured, and internal labels can be printed at the dock so every sack carries a scannable lot.

MATERIALS / 04

Sample with a plan, confirm identity.

A sample from the top of one sack is not a sample of a 40-sack lot. Sampling plans, identity checks and retained samples are where incoming evidence becomes yours.

How many containers?

Write the sampling plan into the material specification: number of containers, where in each, sample size and composite or not.

Identity

Appearance, odour, a quick physical or lab test: confirm the material is what the label says before it is released.

Retain a sample

Keep a labelled retained sample of incoming lots for the period your procedures set, so a later question can be answered.



WORKED EXAMPLE: INCOMING RELEASE PATH FOR IN-5521



WHERE V5 FITS

Sample plans and incoming tests sit in Lab & QC with results against the material specification, and retained samples can be logged with location and expiry. A person releases the lot; V5 shows what is still open.

MATERIALS / 05

Status, shelf life and the half-used bag.

Blenders open a 1,000 kg bulk bag, use 312 kg, and put it back. That part-used bag still has a lot, a status, an opened date and maybe an allergen. It has to be findable.

On hold
Awaiting certificate, test or review

Released
Can be picked, FEFO

Restricted
Only for named formulas or customers

Rejected / expired
Cannot be picked

BULK BAG IN-4410 · MALTODEXTRIN

688 kg left

Received	1,000 kg
Used DM-3388	212 kg
Used DM-3390	100 kg
Opened	29 Sep
Opened life	Per SOP
Location	Rack B4

Allergen segregation
117.135(c)(2) allergen controls include protecting food from allergen cross-contact, including during storage and handling [1]. Dust travels: store high-risk powders low, closed and labelled.

Moisture and pests
Low-moisture ingredients stay safe only while they stay dry and closed. Record storage checks where your plan uses them.

Return to stock
Part-used containers go back with a weight, a reseal check and the same lot. No unlabelled scoops or tubs.

WHERE V5 FITS
Lots carry status, location, expiry and opened dates, with FEFO/FIFO picking. Partial quantities stay on the same lot, and scanning a held, rejected or expired lot at the kiosk stops the step according to your workspace rules.

MAKE / 01

The formula carries the declarations.

A seasoning's ingredient list, allergen statement and additive declarations are only as good as the formula and the material specs behind it. Build them once, from data, under revision.

	Wheat	Milk	Soy	Mustard	Celery	Sesame	Sulphites	ADDITIVE
Salt	•	•	•	•	•	•	•	
Sugar	•	•	•	•	•	•	•	
Smoked paprika IN-5521	•	•	•	•	•	•	•	
Garlic powder	•	•	•	•	•	•	•	
Mustard flour	•	•	•	●	•	•	•	
Flavour enhancer (E 621)	•	•	•	•	•	•	•	check use
Anti-caking agent (E 551)	•	•	•	•	•	•	•	check use
DM-3390 finished	•	•	•	●	•	•	•	

Worked example with a subset of regulated allergens; check every list for each market. E-numbers are EU designations [10].

Allergen lists differ

The U.S. defines nine major food allergens, including sesame [4]. The EU lists fourteen in Annex II of 1169/2011, including mustard, celery and sulphites, emphasised in the ingredient list [9].

Additives follow the final food

EU additive permissions depend on the food category and level in your customer's finished food, and carry-over rules apply [10]. Record the intended use with the formula.

One formula, many specs

The same base blend can be sold to several customers with different salt, colour or particle limits. Keep the customer specification separate from the formula.

WHERE V5 FITS

Formulas and sub-formulas sit under revision with approval, ingredient allergens, nutrition data and target quantities scaled to batch size. Allergen and label previews build from them. Data is only as good as your material specs; a person approves the formula and any label.

MAKE / 02

The smallest addition matters most.

A flavour enhancer, colour, vitamin premix or enzyme at under one percent of the blend can decide whether the lot meets its specification, its label and, sometimes, the law.



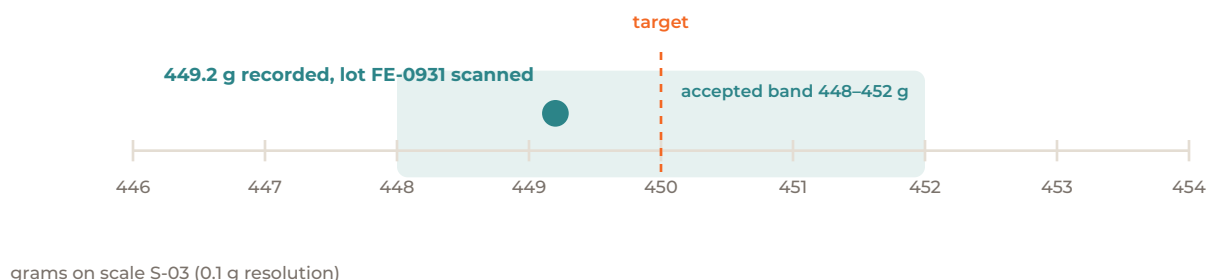
Right scale for the weight

A 450 g addition on a 300 kg floor scale is guesswork. Assign a scale per weight range in the formula and check it at the start of the shift.

Premix first

Many blenders pre-dilute tiny additions in a carrier so they disperse evenly. The premix is its own lot, made and checked like a small blend.

FLAVOUR ENHANCER FOR DM-3390 · TARGET 450.0 g, TOLERANCE ± 2.0 g (WORKED EXAMPLE)



WHERE V5 FITS

Weigh & dispense guides each addition by formula quantity and tolerance, scans the lot, and can block an out-of-tolerance or wrong-lot addition. Supported, configured scales send weights directly; otherwise the operator enters the value and their identity is recorded.

MAKE / 03

Charge in order, blend to time.

Order of addition, blend time and fill level decide whether a 1,000 kg blend is uniform. Bag-tipping is also where dust, foreign matter and cross-contact get in.

1

Base salt and sugar

480 kg + 300 kg

2

Premix PX-3390

45 kg, scanned

3

Spices and flours

175 kg, scanned

4

Blend

12 min at set speed

5

Discharge

To sieve and detector



Uniformity is validated

Blend time and fill level that give a uniform mix are your validation, often confirmed by testing a marker at several points. Record the settings used, every time.

Tipping is a control point

Knife and sack-opening rules, string and paper removal, a guard screen on the tip station, and dust extraction. Record checks where your plan uses them.

Don't mix to dilute

117.110(b): mixing a food with defects at levels that make it adulterated with another lot is not permitted, whatever the final level [1][5].

WHERE V5 FITS

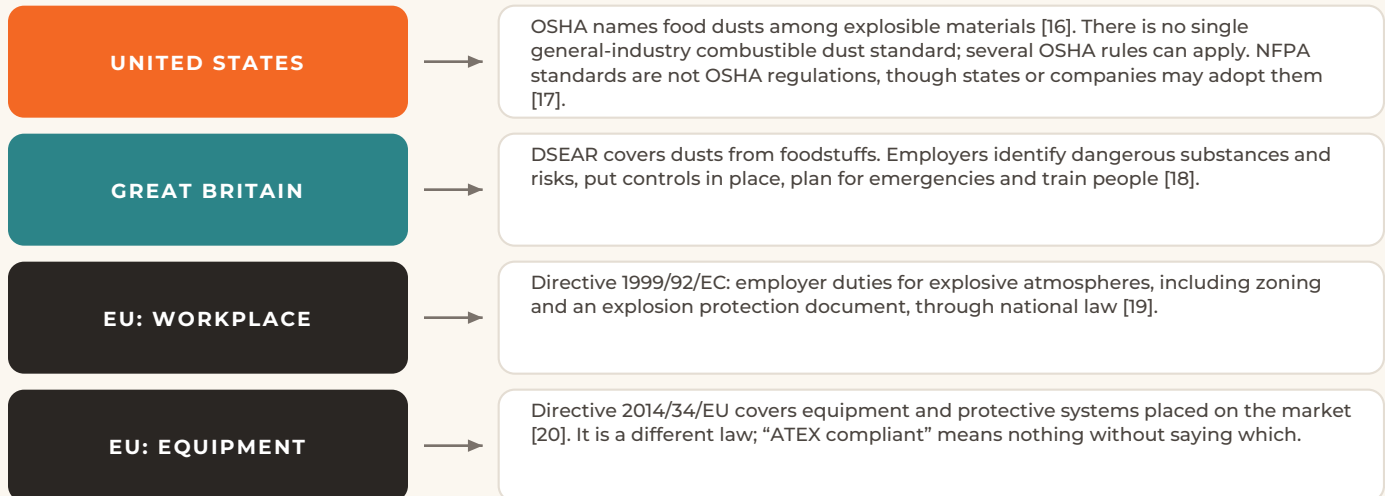
Kiosk steps follow the formula's order of addition with lot scans at each charge, timed blend steps and recorded settings. Skipped or out-of-order steps can be flagged or stopped where configured, and every step records who did it and when.

Sources: [1], [5] (linked on pages 35–37)

MAKE / 04

Dust is a hazard you document.

Sugar, spice, starch and flour can burn and explode as dust [16]. Specialists assess the risk and design the protection; your records show the controls are in place every day.



WORKED EXAMPLE: DUST CONTROL READINESS, LINE 2, START OF SHIFT

Housekeeping round, tipping room	Done 06:05, photo attached	OK
Dust collector DC-2: differential pressure check	Within the range engineering set	OK
Collector PM task	Due in 4 days	OK
Earthing check, bag-tip station	Overdue since yesterday	HOLD

Experts own the design

Hazard assessment, zones, equipment choice and explosion protection belong to qualified people.

Records show it holds

Housekeeping, collector checks and PM are routine tasks. Missed checks show before the shift.

Food safety and dust meet

Extraction and sealed tipping also cut cross-contact. Clean without raising dust clouds.

WHERE V5 FITS

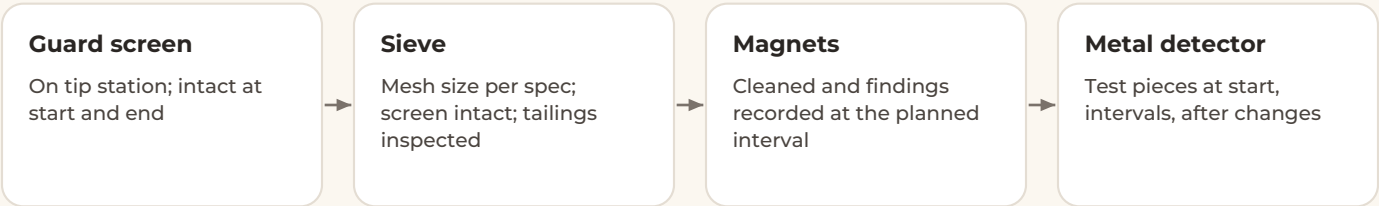
Collectors, blenders and tip stations can be assets with inspection and PM schedules, and housekeeping rounds can run as kiosk tasks with photos. V5 records these checks; it does not assess dust hazards, classify zones, select equipment or certify OSHA, DSEAR or ATEX compliance.

Sources: [16], [17], [18], [19], [20] (linked on pages 35–37)

MAKE / 05

Sieves, magnets, metal detectors.

Physical hazards in powders come from the field, the mill, the sack and your own plant. Each barrier is only evidence if it is checked, intact and recorded.



WORKED EXAMPLE: THE TORN SCREEN AT 08:10

06:30	Screen intact at pre-start check	OK
08:10	Screen found torn; line stopped	HOLD
08:25	Product since 06:30 identified: DM-3389 part, DM-3390	HOLD
09:40	Re-sieved through new screen; tailings inspected	OK

WHERE V5 FITS

Sieve, magnet and detector checks run as timed kiosk tasks with photos and findings, and a failed check can hold the product made since the last good check. Detector results can come in through supported connections. People decide what happens to held product.

MAKE / 06

Prove it meets this customer's spec.

The finished lot is tested against a specification that may belong to your customer, not you. The certificate you send is a promise about that lot.



TEST	CUSTOMER 17 SPEC	DM-3390 RESULT	
Moisture	6.0 %	4.8 %	Pass
Salt	46–50 %	47.9 %	Pass
Colour	Matches standard	Matches	Pass
Particle size	95 % through 500 µm	97 %	Pass
Micro panel	Per customer spec	Pending	Pending

Hold until complete

If a test is still pending, the lot is still on hold, unless your procedures allow a documented, controlled exception.

Certificate from data

Build the certificate from the recorded results, the customer's spec revision and the lot, not by retyping.

Verification testing

117.165(a)(2): product testing as a verification activity, as appropriate to the facility and food [1].

WHERE V5 FITS

Lab & QC and LIMS hold customer-specific specifications, sample plans and results against them, with pending results keeping the lot on hold. Certificates can be generated from recorded results for a person to review and approve. V5 does not approve results or release lots.

MAKE / 07

One blend, forty bags, three orders.

A 1,000 kg lot becomes 40 bags, split across pallets and customers. Every bag needs the lot, and every shipment needs to know which bags it took.



DM-3390 · 1,000 kg PLANNED	
DM-3390-A	24 × 25 kg
Customer 17, order 5512	
DM-3390-B	14 × 25 kg
Customer 17, order 5530	
Retained sample	2 × 0.5 kg
QA store	
Sieve tailings	1.6 kg
Rejected, recorded	
Bags filled	38 of 40
Short 2: yield below plan	

Label from the record

Lot code, product, net weight, date and any customer item code printed from the lot record, never typed on the line.

Net weight

Fill to declared weight under your market's rules; track overfill as product given away and underfill as a risk.

Yield tells a story

1,000 kg in, 950 kg bagged plus samples and tailings: is the rest dust, residue in the blender, or a counting error?

WHERE V5 FITS

Packing can record each bag or pallet against the lot with printed labels from the lot record, and shipments pick by lot and pallet. Sub-lots and splits stay in the genealogy, and yield is visible against the formula's plan.

DECIDE / 01

Correction or corrective action?

Part 117 separates fixing a small problem on the spot from a full corrective action. Both are recorded; they ask different questions.

CORRECTION

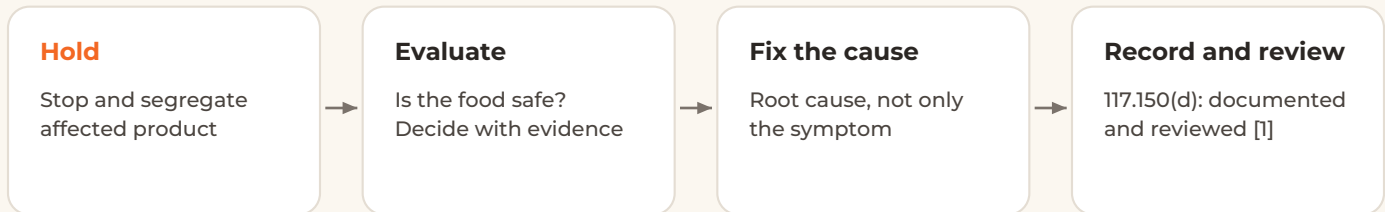
117.3 defines a correction as an action to identify and correct a problem that occurred during production, without other actions associated with a corrective action procedure. 117.150(c) allows corrections for conditions not consistent with allergen or sanitation controls, or a minor, isolated problem that does not directly impact product safety, when taken in a timely manner [1].

Example: a scoop left in a released sack is found at tipping, removed, and the reason recorded.

CORRECTIVE ACTION

117.150(a) procedures, when a preventive control is not properly implemented, identify and correct the problem, reduce the chance of recurrence, evaluate affected food for safety, and prevent adulterated food entering commerce [1].

Example: the torn sieve screen at 08:10. Product since the last good check is held and re-sieved, the cause is found, and the action is reviewed.



Out of customer spec is not always unsafe. A lot can fail Customer 17's colour range and be perfectly safe. Keep quality non-conformances and food safety corrective actions distinguishable, so the record shows which question was asked.

WHERE V5 FITS

Out-of-limit values can open a correction or deviation from the step, linked to the lot, blender, scale and people, with hold of affected lots. AI can suggest a classification or draft a summary for a person to edit. A person decides disposition.

Sources: [1] (linked on pages 35–37)

DECIDE / 02

Review the records, within the week.

Verification is how you show the plan works on ordinary days. Part 117 sets a specific clock for reviewing monitoring and corrective action records.

Calibrate
Monitoring and verification instruments, 117.165(a)(1) [1].

Test
Product testing and environmental monitoring, (a)(2)–(3) [1].

Review
Monitoring and corrective action records within 7 working days, (a)(4)(i) [1].

Validate
Controls proven adequate, 117.160 [1].

WHAT A GOOD RECORD CONTAINS • 117.305 [1]

Original, true copy or electronic	117.305(a)
Actual values and observations	117.305(b)
Accurate, indelible, legible	117.305(c)
Created at the time of the activity	117.305(d)
Plant, date, time, person, product and lot	117.305(f)
Kept at least 2 years after prepared	117.315(a)(1)

WHERE V5 FITS

A review queue can show each day's monitoring and correction records with exceptions first, and record who reviewed them and when. Reports show overdue reviews. Signing a review is a person's act; V5 makes the 7-day clock visible but does not review for you.

Sources: [1] (linked on pages 35–37)

DECIDE / 03

Complaints, and the fix that sticks.

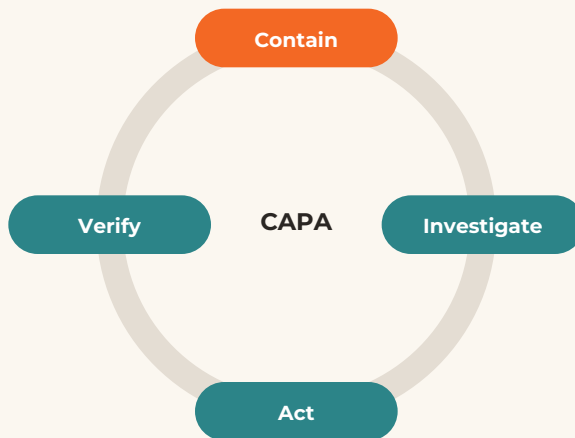
An ingredient blender's complaints usually come from other manufacturers: a colour shift, lumps, a foreign body in their line, or an allergen question from their own customer.

LOG AND LINK

- Customer, product, lot and bag from the label
- What they found, where in their process, when
- Linked lot record, sieve and detector checks, certificate
- Other customers who received the same lot

DECIDE, WITH PEOPLE

- Is there a food safety risk, or a quality one?
- Hold other lots? Tell other customers?
- Does it trigger reanalysis of the plan?
- Report to the authority where your law requires



Feed CAPA from every source

Complaints, failed checks, supplier certificate gaps, out-of-spec results, audit findings and trends. Link them so a repeat is visible.

EU duty to act

Art. 19 of the General Food Law requires operators to withdraw unsafe food and inform the authorities [7].

Agree effectiveness first

Decide what evidence will show the action worked, and review it on a date.

WHERE V5 FITS

Complaints can be logged, linked to lot and customer, and routed to CAPA with root-cause workflow and effectiveness checks. SCARs can go to the supplier when the cause is upstream. AI can draft a summary for a person to edit. V5 does not decide risk, recall or notification.

Sources: [7] (linked on pages 35–37)

DECIDE / 04

The right person, trained for today.

A micro-ingredient weighed by someone not trained on the dispensing SOP, or a changeover signed by someone who has not done one, is weak evidence.

Qualified for the job

117.4(b): each individual has the education, training or experience to do their job, and is trained in food hygiene and food safety [1].

Training is recorded

117.4(d): records of hygiene and food safety training are kept [1]. Keep SOP-specific training against the revision.

Hygiene and clothing

117.10 covers personnel cleanliness, protective clothing and excluding people whose illness could contaminate food [1].

EXAMPLE COMPETENCE AND PERMISSION MATRIX

	Formula rev 8	Micro-dispense SOP	Sieve check	Certificate approval
Blender operator	Trained	—	Trained	Not permitted
Dispensing operator	Trained	Trained	Retraining due	Not permitted
QA technician	Trained	Trained	Trained	Not permitted
QA manager / PCQI	Trained	Trained	Trained	Trained

Dust, gloves and screens. Dispensing booths and tipping stations are dusty, gloved places. Instructions and checks should be readable on a tablet with gloves on, in the language the operator reads, on every shift.

WHERE V5 FITS

Document control keeps SOPs and instructions under revision with read-and-understood training. The skills matrix can block untrained operators at the kiosk where configured, and role permissions decide who can record, verify, review or approve.

SUSTAIN / 01

Scales you can trust, machines that stay clean.

In a blending plant the scales are the process. A floor scale that reads 0.5 % high quietly shifts every formula; a worn blender seal can shed into product.



Calibrate what monitors

117.165(a)(1): calibration of process monitoring and verification instruments, or accuracy checks, as appropriate [1]. Daily test-weight checks plus periodic calibration is common practice.

Look back on a failure

An out-of-tolerance scale raises a question about every addition it weighed since its last good check. Find those lots in minutes.

Hygienic maintenance

Engineering work on a blender, sifter or conveyor is a foreign-body risk. Count tools back, clean, and release the line with a check.

WHERE V5 FITS

Each scale, blender, sifter and detector can have an equipment record with calibration schedule, test-weight checks, certificates, planned maintenance and use history. Out-of-calibration scales can be blocked at the kiosk and the lots that used them listed. Predictive failure analytics are not offered today.

Sources: [1] (linked on pages 35–37)

SUSTAIN / 02

Where the blender's day really goes.

Blenders lose time to allergen and colour changeovers, waiting for premix, waiting for results and bagging stops. Some of it protects customers. Measure it so you can tell which.

RIBBON BLENDER RB-2 · ONE 8-HOUR SHIFT (WORKED EXAMPLE)



WORKED OEE ARITHMETIC

Availability

72%

5.8 h blending of 8 h planned

Performance

95%

actual vs ideal kg per hour

Quality

96%

kg on spec, first time

OEE

65.7% $0.72 \times 0.95 \times 0.96$

Sequence the campaign

Run allergen-free and light colours first where you can. Fewer full cleans is the safest efficiency there is.

Premix ahead

Waiting for a premix is pure loss. Schedule dispensing a shift ahead and show its status on the blender's work order.

Yield and giveaway

Residue, tailings, dust and overfill all come out of the same 1,000 kg. Track each separately.

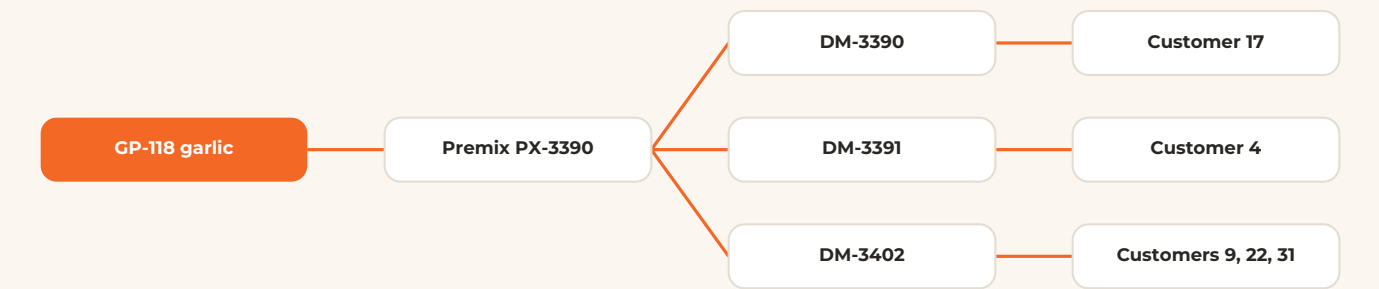
WHERE V5 FITS

Downtime reasons, changeovers, rejects and OEE come from events your team and supported connected machines record, with reports and dashboards where your plan includes them. AI demand and yield forecasting and process anomaly detection are coming soon, not available today.

SUSTAIN / 03

Trace both ways, then act.

A supplier tells you garlic powder lot GP-118 may contain undeclared peanut. One sack went into a premix, the premix into three blends, the blends to five customers making their own products.



Your customers are manufacturers

They will need lot, quantity and date fast, to trace into their own products. Agree contacts and formats before you need them.

Recall plan and policy

117.139 requires a written recall plan for food with a hazard requiring a preventive control [1]; Part 7 Subpart C sets FDA's recall policy [3].

Withdraw and inform

EU operators withdraw unsafe food and inform the authority (Art. 19) [7]. Canada requires traceability documents within 24 hours of request in most cases [12].

WHERE V5 FITS

Lots link at receipt, dispensing, premix, blending, bagging and shipment, so genealogy can be followed forward from a supplier lot or back from a complaint, with customers and quantities listed. Recall and notification decisions stay with your team.

SUSTAIN / 04

Time a mock recall, kilo by kilo.

Dry ingredients are easy to lose track of: part bags, premix carriers, residue in the blender. A mock recall is useful only if it accounts for every kilo.

- 0:00 ● Start: GP-118 named; QA lead opens the trace
- 0:04 ● Premix PX-3390 found; three blends using it
- 0:12 ● Bags and pallets per blend
- 0:20 ● Five customers and shipped quantities listed
- 0:26 ● Stock on site found and placed on hold
- 0:38 ● Mass balance: received vs used vs stock vs loss

MASS BALANCE FOR GP-118 (WORKED EXAMPLE)

Received	25.0 kg in 1 sack
Used in premix PX-3390	18.0 kg
In stock (held)	6.6 kg
Retained sample	0.2 kg
Recorded dust / residue	0.2 kg
Unaccounted	0.0 kg

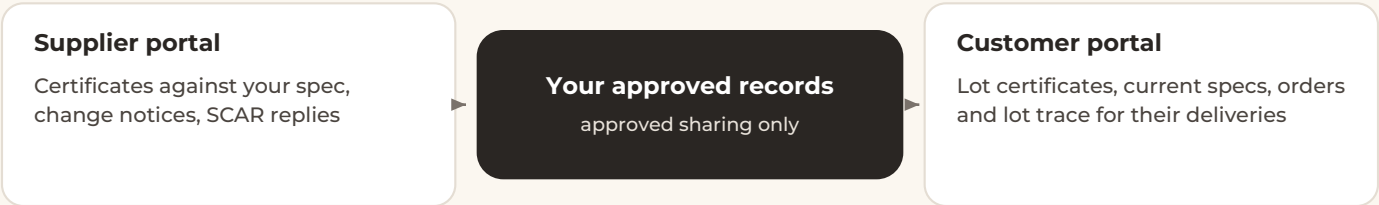
Times are an example of what to measure, not a benchmark. Run the second half too: ask one customer to trace your lot into their products, so you both know the link works.

WHERE V5 FITS

Trace reports list premixes, blends, bags, customers and quantities from a supplier or finished lot, and stock can be held from the trace. Mock recalls can be logged as exercises with times and findings that feed CAPA.

Certificates in, certificates out.

Ingredient businesses live on documents: supplier certificates arriving, customer certificates and specifications leaving. Portals make that a controlled exchange.



Customer-specific everything

Spec revision, certificate layout, item code and disclosure statements differ by customer. Keep them on the customer record, not in someone's inbox.

Review before it counts

A supplier upload is a claim until a person reviews it against your spec. Keep that status visible.

Protect formulas

Share results and declarations, not your formula. Decide what each customer may see.

A SHARING POLICY TO AGREE BEFORE ANYONE LOGS IN

Lot certificate	After approval	Customer
Product specification	Approved revision only	Customer
Allergen and additive declarations	Approved revision only	Customer
Formula and supplier names	Not shared by portal	Your QA
Supplier certificates and SCARs	Reviewed before they count	Your QA

WHERE V5 FITS

A portal foundation gives customers and suppliers branded, read-only access to what you approve. Portal scope and permissions depend on configuration; check the current plan comparison for inclusion. Nothing is shared automatically from an open record.

SUSTAIN / 06

Trustworthy records. Honest AI.

Electronic records only help if they are made at the time, by a known person, with actual values, and if AI stays a helper under human control.

Electronic is allowed

117.305(a): records may be original, true copies or electronic records [1].

Part 11 and Part 117

Records that meet Part 117 are exempt from 21 CFR Part 11; records also required under other rules stay subject to it [1].

Made at the time

117.305(d): records created concurrently with the activity, with the person's signature or initials (f) [1].

AI CAN HELP

- Read supplier certificate values for a person to confirm
- Draft a formula or SOP from an uploaded sheet for approval
- Suggest a deviation classification or draft a summary
- Explain a lot's history in plain language
- Find records and screens faster

AI NEVER

- Accepts a certificate or releases a lot
- Decides an additive is permitted for a use
- Approves a customer certificate or label
- Decides to recall or notify an authority
- Predicts failures today (forecasting is coming soon)

WHERE V5 FITS

Every record keeps who, what and when in an audit trail every plan can view; tamper-evident trails, electronic signatures designed for Part 11 and a validation pack are available where your plan includes them. AI features need configured provider access and human review.

Sources: [1] (linked on pages 35–37)

APPLY / 01

Evidence map.

A one-page check that every theme an inspector, auditor or customer may ask about has an owner and a record. Section numbers refer to U.S. rules [1][2]; adapt them for other markets.

THEME	TYPICAL EVIDENCE	WHERE IT LIVES IN V5	OWNER
Qualified people (117.4)	Training records, hygiene	Skills matrix, training	HR + QA
Food safety plan (117.126)	Signed plan, revisions	Document control	PCQI
Customer control (117.136)	Disclosures, assurances	Customer records	PCQI
Supply chain (Subpart G)	Approval, verification	Suppliers, scorecards	QA + purchasing
Material specifications	Specs, CoA review	Specs, receiving, LIMS	QA
Allergen controls	Changeovers, segregation	Checklists, storage	QA
Formula and additives	Approved revision, use	Formulas	Technical
Micro-ingredient weights	Weight, lot, scale	Weigh & dispense	Production
Physical hazards	Sieve, magnet, detector	Kiosk checks	Production
Customer specification	Results, certificate	LIMS, certificates	QA
Corrective actions (117.150)	Records, reviews	Deviations, CAPA	QA
Verification (117.165)	Calibration, tests, reviews	Equipment, LIMS, queue	PCQI
Records (117.305/.315)	Values, time, person, 2 yrs	Audit trail, retention	QA + IT
One-up one-down (Subpart J)	Source and recipient	Receiving, shipments	Logistics
Recall plan (117.139)	Plan, mock recall times	Trace reports, CAPA	QA

Plan inclusion varies; some areas need Professional or Enterprise. Confirm against the current plan comparison before you scope a project.

WORKSHEET 01

Can you rely on this certificate?

Use one row per material and supplier. Mark Yes, Partly or No; a No means you test it yourself until it is fixed.

	YES	PARTLY	NO
Approved supplier The supplier is approved for this material, before receipt, with the approval documented.	☐	☐	☐
Specification agreed The supplier has your current specification revision and has accepted it.	☐	☐	☐
Lot match The certificate names the lot on the sacks, not a generic or previous lot.	☐	☐	☐
Every parameter Each parameter in your spec is reported, with units and limits.	☐	☐	☐
Methods stated Test methods and laboratory are named for safety-related results.	☐	☐	☐
Confirmation testing You test this material yourself at a planned frequency to confirm the certificates.	☐	☐	☐
Track record Recent confirmation tests and receipts agree with the certificates.	☐	☐	☐
Change notice The supplier must tell you about origin, process, site or allergen changes.	☐	☐	☐
Identity check You confirm identity at receipt even when the certificate is accepted.	☐	☐	☐
Reviewed by a person A trained person accepts the certificate; the acceptance is recorded.	☐	☐	☐

NOTES AND OWNERS

WORKSHEET 02

Would yesterday's blend record pass?

Pick one recent lot. Mark Yes, Partly or No, then note the gap and who owns it.

	YES	PARTLY	NO
Formula revision The lot record shows the formula and revision made, and the customer spec it was made to.	☐	☐	☐
Every lot scanned Each material, premix and part bag used is recorded with lot and quantity.	☐	☐	☐
Micro-ingredients Each small addition was weighed on the assigned scale, within tolerance.	☐	☐	☐
Order and time Additions followed the formula's order; blend time and settings were recorded.	☐	☐	☐
Changeover Allergen or colour changeover was verified and signed before the run.	☐	☐	☐
Physical checks Sieve, magnet and detector checks at the planned frequency, with findings.	☐	☐	☐
Lab results All required results are recorded against the customer's specification.	☐	☐	☐
Corrections Every out-of-limit value has a correction or corrective action record.	☐	☐	☐
Bags and splits Bag count, sub-lots, samples and losses add up to the blend weight.	☐	☐	☐
Review in time Monitoring and corrective action records reviewed within 7 working days.	☐	☐	☐

NOTES AND OWNERS

WORKSHEET 03

Ask to see it work.

Questions for any software demonstration. Ask the vendor to show each with your formula and your blender, not a slide.

	SHOWN	PARTLY	NOT SHOWN
Held material Scan a held or expired sack at dispensing; show the step stop.	☐	☐	☐
Wrong lot Scan a different material at a micro-ingredient step; show what happens.	☐	☐	☐
Tolerance Enter a weight outside tolerance; show the block and the record.	☐	☐	☐
Part bag Use 312 kg of a bulk bag; show the balance and the lot back in stock.	☐	☐	☐
Premix genealogy Trace a premix ingredient into every blend that used it.	☐	☐	☐
Certificate review Upload a supplier certificate; show values against the spec for review.	☐	☐	☐
Customer spec Show one lot against two customers' specifications.	☐	☐	☐
Certificate out Generate a lot certificate from recorded results for approval.	☐	☐	☐
Failed sieve Record a torn screen; show which product is held.	☐	☐	☐
Audit trail Show who changed a recorded value, when and why.	☐	☐	☐

NOTES AND OWNERS

APPLY / 02

Roll out in phases.

Start where value is visible and risk is contained. Run paper and system in parallel until each phase is verified.

PHASE 1
Foundations

Scope, roles, document control for the food safety plan and SOPs, training records, scales and equipment register with calibration.

PHASE 2
Materials

Specifications, approved suppliers, certificate review, receiving with status, sampling, part-used bags, expiry and FEFO.

PHASE 3
Make

Formulas under revision, micro-ingredient dispensing and premix, blend steps on one blender, paper kept in parallel.

PHASE 4
Control

Changeovers, sieve and detector checks, corrections and corrective actions, the review queue, customer specs and lab results.

PHASE 5
Connect

Certificates out, bagging and shipments, genealogy and timed mock recalls, complaints and CAPA, portals, OEE.

Tell your customers early. If certificate layouts, lot code formats or label content will change, agree the switch date with each customer. Ask your PCQI whether any change needs reanalysis of the food safety plan under 117.170 before it goes live [1].

Sources: [1] (linked on pages 35–37)

WORKSHEET 04

Find your first improvement.

Score each area today: E evidenced, P partial, G gap. Start with the gap that costs you held stock, customer complaints, review time or audit findings.

	E	P	G
Supplier approval Approved before receipt; verification on schedule	☐	☐	☐
Certificate review Against spec, by a person, lot-matched	☐	☐	☐
Goods-in and sampling Lot, condition, sampling plan, identity	☐	☐	☐
Status and part bags Held stock blocked; balances right; FEFO	☐	☐	☐
Formulas and declarations One source of truth, under revision	☐	☐	☐
Micro-ingredients Right scale, tolerance, lot scanned	☐	☐	☐
Blend steps Order, time, settings recorded	☐	☐	☐
Physical hazards Sieve, magnet, detector, look-back	☐	☐	☐
Customer specs and certificates Results against spec; built from data	☐	☐	☐
Calibration Daily checks, schedule, look-back	☐	☐	☐
Trace and recall Through premix, both ways, timed	☐	☐	☐
Complaints and CAPA Linked to lots and suppliers	☐	☐	☐

NOTES AND OWNERS

APPLY / 03

A fair evaluation in four weeks.

A practical way to test any system with your own people and one real blend, without touching live records.

WEEK 1

Agree the blend, the customer and the five questions that matter most. Load one formula with specs, a premix and checks.

WEEK 2

Run a day end to end with test data: receipt, certificate review, dispensing, blend, sieve, lab and bagging.

WEEK 3

Break it on purpose: held sack, wrong lot, weight out of tolerance, torn screen, pending result, overdue review.

WEEK 4

Run a timed mock trace through a premix. Review with production, QA, warehouse, technical and IT, and decide next steps.

Rules for the evaluation. Use test data only. Keep your current records and release process live until a verified change is approved. Record what was shown, not what was promised.

ASK V5

“We blend [seasonings / bakery mixes / premixes / beverage powders] on [number] blenders for [customers and markets]. Our hardest moment is [e.g. reviewing supplier certificates and micro-ingredient weights]. Which workflows should we evaluate first?”

Start a 7-day free trial, no card required, or ask V5 on v5ultimate.com.

WHERE V5 FITS

Try V5 with your own formula in a trial workspace using test data. The assistant can answer questions about features and plans; it does not give regulatory advice.

SOURCES

Keep the evidence close.

Primary sources behind this guide, checked October 2026. Click a title to open the publisher's page.

- | | | |
|-----|---|--------------------------|
| [1] | <u>U.S. eCFR, 21 CFR Part 117: CGMP and preventive controls for human food</u> | BINDING U.S. REGULATION |
| [2] | <u>U.S. eCFR, 21 CFR Part 1 Subpart J: establishment and maintenance of records</u> | BINDING U.S. REGULATION |
| [3] | <u>U.S. eCFR, 21 CFR Part 7: Enforcement Policy (recalls, Subpart C)</u> | U.S. REGULATION / POLICY |
| [4] | <u>21 U.S.C. 321(qq) (FD&C Act sec. 201(qq)): major food allergens</u> | BINDING U.S. STATUTE |
| [5] | <u>U.S. FDA, Food Defect Levels Handbook</u> | FDA GUIDANCE |
| [6] | <u>U.S. eCFR, 21 CFR Part 1 Subpart S: additional traceability records</u> | BINDING U.S. REGULATION |
| [7] | <u>Regulation (EC) 178/2002: General Food Law (EU)</u> | BINDING EU REGULATION |
| [8] | <u>Regulation (EC) 852/2004: hygiene of foodstuffs (EU)</u> | BINDING EU REGULATION |
| [9] | <u>Regulation (EU) 1169/2011: food information to consumers</u> | BINDING EU REGULATION |

SOURCES

Sources, continued.

[10] [Regulation \(EC\) 1333/2008: food additives \(EU\)](#)

BINDING EU REGULATION

<https://eur-lex.europa.eu/eli/reg/2008/1333/oj>**[11]** [Regulation \(EU\) 231/2012: specifications for food additives](#)

BINDING EU REGULATION

<https://eur-lex.europa.eu/eli/reg/2012/231/oj>**[12]** [Canada, Safe Food for Canadians Regulations \(SOR/2018-108\)](#)

BINDING CANADIAN REGULATION

<https://laws-lois.justice.gc.ca/eng/regulations/SOR-2018-108/>**[13]** [Codex Alimentarius, General Principles of Food Hygiene \(CXC 1-1969, rev. 2022\)](#)

VOLUNTARY INTERNATIONAL

<https://www.fao.org/fao-who-codexalimentarius/codex-texts/codes-of-practice/en/>**[14]** [Codex General Standard for Food Additives \(GSFA\) online database](#)

VOLUNTARY INTERNATIONAL

<https://www.fao.org/fao-who-codexalimentarius/codex-texts/dbs/gafa/en/>**[15]** [U.S. FDA, Food Safety Plan Builder \(optional tool\)](#)

FDA OPTIONAL TOOL

<https://www.fda.gov/food/food-safety-modernization-act-fsma/food-safety-plan-bu...>**[16]** [U.S. OSHA, Combustible dust](#)

OSHA INFORMATION PAGE

<https://www.osha.gov/combustible-dust>**[17]** [U.S. OSHA, Combustible dust: consensus standards \(not OSHA regulations\)](#)

OSHA PAGE (VOLUNTARY STANDARDS)

<https://www.osha.gov/combustible-dust/consensus-standards>**[18]** [UK HSE, DSEAR \(Dangerous Substances and Explosive Atmospheres Regulations 2002\)](#)

UK HSE GUIDANCE PAGE

<https://www.hse.gov.uk/fireandexplosion/dsear.htm>

SOURCES

Sources, continued.

- [19] [Directive 1999/92/EC: workers at risk from explosive atmospheres \(EU\)](#)

BINDING EU DIRECTIVE

<https://eur-lex.europa.eu/eli/dir/1999/92/oj>

- [20] [Directive 2014/34/EU: equipment for explosive atmospheres \(EU, consolidated\)](#)

BINDING EU DIRECTIVE

<https://eur-lex.europa.eu/eli/dir/2014/34/oj>

- [21] [U.S. FDA, Food allergies \(major food allergens incl. sesame\)](#)

FDA INFORMATION PAGE

<https://www.fda.gov/food/nutrition-food-labeling-and-critical-foods/food-allerg...>

- [22] [CFIA, SFCR handbook for food businesses](#)

CFIA GUIDANCE

<https://inspection.canada.ca/en/food-safety-industry/toolkit-food-businesses/sf...>

How to read the status labels. Binding regulations and statutes are law in their jurisdiction. FDA guidance explains FDA's current thinking but does not bind. Codex texts and certification schemes are voluntary unless a law adopts them.

SCOPE AND LIMITS

This guide is practical orientation for evaluating ingredient and dry blend operations and software. It is not legal or regulatory advice and does not list every requirement that applies to you; requirements depend on product, site, customer, market and exemptions. V5 capability statements reflect the V5 product reference reviewed on 1 October 2026 and depend on plan, configuration, devices and permissions. AI forecasting and anomaly detection are coming soon. V5 does not write hazard analyses, decide whether a supplier certificate is enough, approve additive use, release lots or decide recalls, and does not by itself make you compliant. Photography is illustrative; lots, results and charts are worked examples, not customer data.



Verified materials. Precise blends. On-spec for every customer.

See ingredient and dry mix workflows at v5ultimate.com · Global edition · October 2026