QuickTox™ Kit for QuickScan Ochratoxin-A

Catalog AQ 113 BG *Part #10320*

Matrices and Detection Ranges:

Matrix Group ID	Protocol	Results reported in the range of:	Limit of Detection (LOD)*	Highest Approved Level*
MG1 – Wheat	Base Range	0 - 30 ppb	1.5 ppb	30 ppb
	Dilution A	0 - 100 ppb	30 ppb	100 ppb
MG2 – Corn	Base Range	0 - 30 ppb	1.5 ppb	30 ppb
MG3 – Corn Common Extraction	Base Range	0 - 30 ppb	3.0 ppb	30 ppb
	Dilution A	0 - 100 ppb	30 ppb	100 ppb
	Dilution B	0 - 300 ppb	100 ppb	300 ppb
MG13-Custom Corn 1	Base Range	0 - 30 ppb	3.0 ppb	30 ppb
	Dilution A	0 -100 ppb	30 ppb	100 ppb

**Do not assume accuracy for results reported below the protocol's LOD or above the protocol's highest approved level.*

Scan to View Verified Matrices:

envirologix.com/verified/

Important Notes:

- Before testing, the enclosed Multi-Matrix Barcode Card (MMBC) must be scanned just once for each kit lot to upload information to the QuickScan
- QuickScan Software Version 5.11.0Update 1 or later is required
- **Verified Matrix** is a customer-specific sample type that has been rapidly and reliably tested using EnviroLogix strips through our agile Matrix Addition process—delivering fit-for-purpose protocol guidance where full validation is not required. Because the samples used in verification may not represent global sample variation, Verified Matrices are not covered under the EnviroLogix limited warranty. We recommend evaluating performance using your own samples prior to incorporating a Verified Matrix into your operations.
- **Validated Matrix** are listed in the table on page 1 and are covered under the EnviroLogix limited warranty.

A Summary Guide for testing is provided on Page 11-12. More details for each step in the process are described below and are important for achieving optimal, accurate results.

Matrices

Note: Scanning the Multi-Matrix Barcode Card once per kit lot is required. The QuickScan software will prompt users to select a Matrix Group (MG) before proceeding to the result screen.		
▪ Wheat, Corn	Grain Buffer Extraction	**SET A** PROCEDURE: PAGE 6
▪ Corn Common Extraction	EB17 Extraction	**SET B** PROCEDURE: PAGE 7

Intended Use

QuickTox Ochratoxin is designed to quickly provide quantitative results for the presence of ochratoxin-A residues. Please refer to Matrix Groups table on page 1 for the Limit of Detection (LOD) and Assay Range(s) for each matrix.

Contents of Kit:

- 50 QuickTox Strips packed in a moisture-resistant canister
- 50 Clear Reaction Tubes
- 100 pipette tips
- Grain Buffer Concentrate
- DB3 Buffer
- Multi-Matrix Barcode Card - kit lot specific

Items Not Provided:

- QuickScan System*
- Microcentrifuge and vials*
- Bunn grinder or equivalent
- 20-mesh screen (available through Seedburo or other vendor)
- Digital scale for weighing samples
- Extraction cups with lids* or other suitable vessels for sample extraction
- Graduated cylinder*
- Incubator (base + block)*
- DB5 Buffer*
- EB17 Dissolvable Pouches*
- Orbital/rotary shaker
- Pipette(s) to deliver 50 and 200 µL*
- Timer
- Scissors
- Bottled, distilled, or deionized water

***Available Accessories:**

Item	*Catalog No.*	*Part #*
QuickScan™ System	ACC 351	13065
Sample cups/lids (50/package)	ACC-012-50	11224
5 oz Sample cups/lids: *Case of 500; for extracting samples up to 30g*	20-0047	10167
10 oz Sample cups/lids: *Case of 100; for extracting samples >30g*	20-0129	12383
Centrifugation Set: *Disposables for 50 tests*	ACC 010	11214
Microcentrifuge	ACC 064 E	11204
Graduated cylinder (100 mL)	ACC 068	11207
MiniPet pipette (50 µL) *For use with DB6, such as Rye*	ACC-051	11203
MiniPet pipette (200 µL)	ACC-067	11206
MiniPet pipette (100 µL)	ACC 041	11202
Coffee filters (100)	ACC 083	11434
TotalTox Extraction Set: *EB17 dissolvable pouches, 50/package*	ACC 117	14029
DB5 Buffer: *Buffer for EB17-extracted matrices*	KR-266-7	11665
DB6 Buffer: *Buffer for some verified matrices, such as Rye*	KR-268-7	12227
Dilution Set: *Blue dilution tubes and EB17 dissolvable pouches for 50 tests*	ACC 103	12500
1 mL adjustable pipette	ACC 1303-PRO-1000	11964
Pipette tips for 1 mL pipette	20-0127	12243
Incubator	ACC BSH301	12458

How the Test Works

A composite sample is collected, ground and then extracted to solubilize any Ochratoxin-A present. The extract is further extracted and/or diluted with the correct buffer(s) before being run on the QuickTox test strip. Each QuickTox Strip has an absorbent pad at each end. The protective tape with the arrow indicates which end of the strip to insert into the reaction tube. The sample extract travels up the membrane strip and is absorbed into the larger pad at the top of the strip. At the end of the reaction time, the strip is cut at the top of the arrow tape, the bottom pads are discarded, and the strip is inserted into the QuickScan reader to obtain quantitative results.

Matrix specific extractions and analysis protocols are chosen for accuracy and precision. Each matrix is assigned to a Matrix Group (MG). Each MG has a common standard curve, Limit of Detection (LOD), and maximum reported value. When the

user selects the MG during testing, the QuickScan System software reads the test strip, retrieves information encoded in the strip's barcode and on the Multi-Matrix Barcode Card (MMBC), and uses the appropriate curve to obtain a result for the matrix being tested.

Precautions – Read First!

SAFETY

1. **Disposal of ochratoxin-contaminated materials.** Follow your facility's safety procedures for disposal of samples and extracts potentially containing or known to contain ochratoxin.
2. **EB17 Dissolvable Pouches contain powder that is flammable and an irritant**. See attached Safety Data Sheet.
    a. If the pouches are damaged, avoid inhaling powder or contact with the skin, eyes, or clothing. Wear personal protective equipment including safety glasses, gloves, mask and lab coat when handling. Keep powder away from heat, sparks and open flame.
    b. Observe any applicable regulations when disposing of extracted samples and kit reagents.
    c. Do not treat either the EB17 extracts or the EB17 extraction labware with bleach; the Extraction Pouch powder is incompatible with strong oxidizers.
3. Ochratoxin may be toxic and carcinogenic for humans. Avoid contact with skin and mucous membranes. Gloves, protective eyewear, and protective apparel should be worn. If exposure occurs, flush affected area with water. Liquids containing ochratoxins should be treated by the addition of bleach (add a minimum of 10% of the total volume for 10 minutes before disposal).

GENERAL

1. The intended user should read the entire product instructions, including all safety precautions, before use of this kit. The operator should be capable of using common testing equipment including an appropriate grinder or mill, pipettes, graduated cylinders, etc. Training on use of this product and the QuickScan System is available from EnviroLogix.
2. Test strip canisters are desiccated; before opening canisters, ensure they have warmed to room temperature. After removing test strips, reseal the canister immediately. Avoid bending test strips.
3. Ensure all samples, extraction reagents (including water), test strips, and Buffer are at room temperature before use.
4. As soon as water is added to the sample containing dissolvable EB17 pouches, the sample must be shaken immediately in a hard-walled container to prevent the extraction powder from clumping and not going into solution.
5. Strips must be read promptly once the indicated run time is complete.
6. Protect all components from hot or cold extremes of temperature when not in use. Do not leave in direct sunlight or in vehicle.

Sample Preparation

1. Collect a composite sample according to your own sampling plan or FGIS guidelines. Consult USDA/AMS/FGIS/GIPSA reference documents to help design a plan that fits your needs. Contact Technical Support for more information.
2. Grind samples to provide a consistency such that 95% passes through a 20-mesh sieve.
3. Mix ground material thoroughly before sub-sampling, to minimize variability.
4. Weigh samples (consult directions for each extraction method for weights, pages 6-7) into containers that will allow enough head room for the liquid to move forcefully when shaken vigorously. EB17-extracted matrices require **hard-walled** containers.

Sample Clarification

Depending on the sample matrix, there may be multiple acceptable methods for removing particulate from the extract.

Centrifugation (MG1 and MG2)	Filtration (MG3 and MG13)
1. Fill a microcentrifuge tube with extract. 2. Centrifuge for the specified time at 2000 x *g* (rcf, ***not rpm***). 3. Use the top layer of extract; there may be a white floating layer above that extract that should not be used for testing.	1. Add an approved coffee filter (e.g. BUNN Part #BUNBCF100B) to a clean vessel. 2. Pour extract into filter. Wait no more than 2 min. 3. Pull back the filter to access the filtered extract.

Testing in Base Range

Refer to Matrix Group instructions (pages 6-7) or Summary Table (pages 11-12) for base range testing.

Range with Dilution

If, after running and reading the test, the initial result is greater than the upper end of the Base Range, samples can be diluted and retested to extend quantitation (see table on page 1). Combine extract with the appropriate Dilution Reagent to create a diluted extract. Measure carefully and mix well.

Dilution Reagents

Wheat/MG1
Grain Buffer: Prepared Grain Buffer (see page 6).
Corn Common Extraction/MG3 and MG13
EB17 Dilution Solution: Dissolve 1 EB17 pouch in 150 mL of water and mix well; Dilution Solution mixture will appear cloudy. Label, date, and document the preparation. Dilution Solution can be stored at ambient temperature for 30 days. Thoroughly mix before use.

Dilution A: For testing samples at levels greater than 30 ppb (> 30 ppb in Base Range)

A1. Use a clean pipette tip when extracting the dilution reagent and another clean pipette tip for the buffer:
For Wheat (MG1): Mix 1 mL of prepared Grain Buffer (see page 6) + 200 µL clarified extract into a reaction tube.
For Corn Common Extraction (MG3 and MG13): Mix 400 µL Dilution Solution (see above) + 100 µL clarified extract in a blue Dilution Tube or other suitable vessel. Save this diluted extract.

A2. Rerun assay as indicated in Base Range but using diluted extract (see pages 6-7). *Example: for wheat, pipette 50 µL DB3 + 200 µL of the diluted extract into a new reaction tube, add a new test strip, and wait 10 minutes for test results.*

A3. In the QuickScan Results Screen, use the dilution tab pull down menu to select 1:6 for Wheat (MG1) diluted samples or Dilution A (1:A) for Corn Common Extraction (MG3 and MG 13) diluted samples. The System will adjust and display the ochratoxin level from diluted samples. Adjusted results are valid in the range of **30-100 ppb**.

Dilution B: For testing Corn Common Extraction (MG3) samples that read greater than 100 ppb in the Dilution A protocol (after selecting 1:A from the Dilution Tab)

B1. **For Corn Common Extraction (MG3):** Mix 200 µL Dilution Solution + 100 µL diluted extract from Step A1 above, in a blue Dilution Tube or other suitable vessel.

B2. Rerun assay as in Step A2 above.

B3. In the QuickScan Results Screen, use the dilution tab pull down menu to select Dilution B (1:B). The System will adjust and display the ochratoxin level from diluted samples. Adjusted results are valid in the range of **100-300 ppb**.

^ The tube acclimation step is only required if the temperature of the testing environment is unknown or outside of 20 - 24°C (68 - 75°F).

Use of the QuickScan System

Detailed instructions for use of the QuickScan System are supplied with each unit and can also be found at www.envirologix.com/support. The lot-specific Multi-Matrix Barcode Card (MMBC) must be scanned into the system prior to testing. In summary, a strip is inserted into the reader and the strips are read by touching or clicking on the "Read Test" area of the screen. The "Select Matrix Groups" screen will appear if more than one barcode was scanned into the system from the MMBC. Select the group that displays the matrix run. Results are then recorded in an electronic worksheet, allowing each user to report and track data easily. Results are reported in the ranges noted in the table on page 1. Results less than the stated limit of detection are reported as "<LOD" (less than Limit of Detection). Results greater than the stated upper range will report as ">" than the upper limit of the range; for example, if the upper range is 30 ppb, it will report as "> 30 ppb".

Kit Storage

This QuickTox Kit should be stored refrigerated. Note the shelf life on the kit box. Prolonged exposure to high temperatures may adversely affect the test results; protect all components from extreme hot or cold temperatures. Do not leave in direct sunlight or in a vehicle. Do not open the desiccated canister until ready to use the strips. Prolonged exposure of the test strips to environmental conditions may adversely affect the test results; protect test strips from environmental conditions by allowing canister acclimate to room temperature before opening and closing canister as soon as test strips are removed.

Cross-reactivity

The following mycotoxins have been tested with this kit and no false positive results occurred at the 100 ppm level: Aflatoxin B1, DON (deoxynivalenol), Fumonisin B_1, Zearalenone.

Notes

- This product is currently not applicable for use in testing any other crops beyond those specified in this Product Insert.
- This assay is calibrated against reference samples supplied by Trilogy Analytical Laboratory, Washington, MO, and other vendors and associated analytical method HPLC or LC/MS/MS data.
- As with all screening tests, it is recommended that results be confirmed by an alternate method when necessary.
- The assay has been optimized for use with the protocols provided in the kit. Deviation from these protocols may invalidate the results of the test. Room temperature components, proper and thorough mixing, timing, and accurate pipetting are essential to accurate results.
- QuickScan will report values above the protocols upper range when running in the Dilution protocol (Dilution A or B), do not assume accuracy for results reported above the protocols highest approved level, or below the protocols LOD.
- The results generated through the proper use of this diagnostic tool reflect the condition of the working sample directly tested. Extrapolation as to the condition of the originating lot, from which the working sample was derived, should be based on sound sampling procedures and statistical calculations which address random sampling effects, non-random sampling effects and assay system uncertainty. A negative result obtained when properly testing the working sample does not necessarily mean the originating lot is entirely negative for the analyte in question.
- Pipettes lose calibration accuracy over time. Calibrate or replace pipettes at least annually.

Set A: Grain Buffer-Extracted Matrices

- Review Sample Preparation on page 3 for grinding consistency and notes.
- Turn on the incubator and set to 22°C for a minimum of 10 minutes before testing. Ensure that the temperature display has stabilized and indicates "OK" before starting the assay. All reagents should be at room temperature.
- Use distilled, deionized, or flat (non-carbonated) bottled water. Drinkable (potable) tap water may be used, with customer validation of water supply. Contact Technical Support to purchase a control set and protocol that can be used to verify your water supply.

Prepare Grain Buffer

In a clean vessel with a cover, dilute the Grain Buffer Concentrate **20-fold** using 19 parts water and one part concentrate. Mix to make homogenous. (For example: 25 mL Buffer Concentrate into 475 mL water). Tap water may be used for dilution, but purified water (distilled and/or deionized) yields optimal results. If prepared with purified water, Grain Buffer may be stored for up to 7 days at room temperature. If prepared with tap water, Buffer should be used the same day, or may be stored refrigerated for longer life. **Note:** Bring Buffer to room temperature before testing.

Sample Extraction:

Wheat – MG1	20 - 50 g Sample	Add **5 volumes** of room temperature Grain Buffer* (5 mL per gram of sample, i.e. 25 grams, add 125 ml)
Corn – MG2		Add **4 volumes** of room temperature Grain Buffer* (4 mL per gram of sample; ie. 25 grams, add 100 mL)

Shake: choose mechanical shaker or hand shaking

Shaker Table: mix at highest speed (≥ 300rpm) for 30 seconds	***By Hand:*** shake vigorously for 30 seconds

Clarify Extract: Centrifuge sample for 30 seconds at 2000 x g (rcf, **not rpm**)

Centrifuge: 30 seconds at 2000 x *g* (rcf, ***not rpm***)

Combine Buffer and Extract, then Run Test Strips

1. Add 50 µL of DB3 to the Reaction Tube (discard tip).
2. Add 200 µL clarified extract to the Reaction Tube.
3. Mix thoroughly with extract pipette tip, discard tip.
4. Immediately add test strip to the tube, arrows down, wait 10 minutes (run time).
5. Immediately cut strips at the top of the arrow tape (discard bottom pads).
6. Insert strip into QuickScan Reader.
7. When prompted, select Matrix Group for the matrix being tested.

TIPS!

Get Complete Extraction

- Fully wet samples before the next shaking step
- Avoid delay between buffer addition and shaking
- Assure liquid is moving forcefully though the sample while shaking to avoid incomplete extraction.

For Best Performance

- Pipette up and down while mixing
- Read strips promptly after run time

Avoid Contamination

- Use a new Reaction Tube per test
- Keep DB3 capped, when possible
- Use new pipette tips for each step

TABLE A: Grain Buffer-Extracted Matrix Summary (Base Range)

Matrix	LOD (ppb	First	Second	Shake	Clarify	Reaction Tube	Run
Wheat – MG1	1.5	20 - 50 g	5 mL Grain Buffer* per g Sample	30 sec shaker *or* 30 sec by hand	Centrifuge 30 seconds at 2000 x g (rcf, **not rpm**)	50 µL DB3 + 200 µL extract	10 mins
Corn – MG2	1.5		4 mL Grain Buffer* per g Sample				

* Prepare Grain Buffer by diluting Grain Buffer Concentrate 20-fold using 19 parts water and one part concentrate, mix to make homogenous. Read "Prepare Grain Buffer" step above.

SET B: EB17-extracted Matrices

- Review Sample Preparation on page 3 for grinding consistency and notes.
- Turn on the incubator and set to 22°C for a minimum of 10 minutes before testing. Ensure that the temperature display has stabilized and indicates "OK" before starting the assay. All reagents should be at room temperature.
- Use distilled, deionized, or flat (non-carbonated) bottled water. Drinkable (potable) tap water may be used, with customer validation of water supply. Contact Technical Support to purchase a control set and protocol that can be used to verify your water supply.
- EB17 pouches (Cat. # ACC-117), DB5 Buffer (Cat. # KR-266-7), filters (Cat. # ACC-083), and an incubator (Cat. # ACC-BSH301) are required for EB17-extracted matrices.

Sample Extraction:

Corn Common Extraction – MG3	25g	Add 1 EB17 pouch to sample Add 75 mL water	Wet sample immediately by vigorously hand shaking for 10 seconds. * If needed, shake the sample against the palm of your other hand or a hard surface to loosen up any dry sample areas. **Immediately** proceed to next shaking step.
	50g	Add 2 EB17 pouches to sample Add 150 mL water	
Custom Corn 1 Extraction – MG13	25g	Add 1 EB17 pouch to sample Add 75 mL water	Wet sample immediately by vigorously shaking hands for 10 seconds. * If needed, shake the sample against the palm of your other hand or a hard surface to loosen up any dry sample areas. **Immediately** proceed to next shaking step
	50g	Add 2 EB17 pouches to sample Add 150 mL water	

***Shake:** choose mechanical shaker or hand shaking

Shaker Table: mix at highest speed (≥ 300rpm) for 1 minute	***By Hand:*** shake vigorously for 2 minutes

Filter: Pour through approved coffee filter (ACC 083); wait for up to 2 minutes.

Clarify Extract: Filter.

Combine Buffer and Extract, then Run Test Strips

1. Add 100 uL DB5 to the Reaction Tube (discard tip).
2. Add 100 uL clarified extract to the Reaction Tube.
3. Mix thoroughly with extract pipette tip, discard tip.
4. Place the Reaction Tube in the 22°C incubator; equilibrate for 2 minutes. **Note: tube acclimation step is only required if the temperature of the testing environment is unknown or outside of 20 - 24°C (68 - 75°F).**
5. Add test strip to tube, arrows down, wait 4 minutes (run time).
6. Immediately cut strips at the top of the arrow tape (discard bottom pads).
7. Insert strip into QuickScan Reader.
8. When prompted, select Matrix Group for the matrix being tested.

TIPS!

Get Complete Extraction
- Fully wet samples before the next shaking step
- Avoid delay between water addition and shaking
- Assure liquid is moving forcefully though the sample while shaking to avoid incomplete extraction.

For Best Performance
- Pipette up and down while mixing
- Read strips promptly after run time

Avoid Contamination
- Use a new Reaction Tube per test
- Keep DB5 capped, when possible
- Use new pipette tips for each step

TABLE B: EB17-Extracted Matrix Summary (Base Range)

Matrix	LOD (ppb)	First	Second	Third	Shake	Clarify	Reaction Tube	Run
Corn Common Extraction – MG3	3.0	25g	1 x EB17	75 mL water	1min shaker *or* 2 min by hand	Filter up to 2 min	100 µL DB5 + 100 µL extract	4 min
		50g	2 x EB17	150 mL water				
Custom Corn Extraction – MG 13	3.0	25g	1 X EB17	75 mL water	1min shaker *or* 2 min by hand	Filter up to 2 min	100 µL DB5 + 100 µL extract	4 min
		50g	2 x EB17	150 mL water				



LIMITED WARRANTY

EnviroLogix Inc. ("EnviroLogix") warrants the products sold hereunder ("the Products") against defects in materials and workmanship when used in accordance with the applicable instructions for a period not to extend beyond a product's printed expiration date. If the Products do not conform to this Limited Warranty and the customer notifies EnviroLogix in writing of such defects during the warranty period, including an offer by the customer to return the Products to EnviroLogix for evaluation, EnviroLogix will repair or replace, at its option, any product or part thereof that proves defective in materials or workmanship within the warranty period.

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This Limited Warranty states the entire obligation of EnviroLogix with respect to the Products. If any part of this Limited Warranty is determined to be void or illegal, the remainder shall remain in full force and effect.

License

EnviroLogix has developed this kit using proprietary reagents.

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Safety data sheet

SECTION 1. Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name: Extraction Buffer GEC 20X

Part number: 10556, 12124, (KR 033/004)

Synonyms: Grain Extraction Concentrate 20X; Grain Buffer Concentrate 20X

1.2 Relevant identified uses of the substance or mixture and uses advised against application of the substance / preparation : Laboratory chemicals; kit component; not to be used for purposes other than those specified in product literature.

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier: Envirologix Inc. 500 Riverside Industrial Pkwy. Portland ME 04103, USA Tele: (207)-797-0300

1.4 Emergency telephone number: (207) 797-0300 Technical Service

SECTION 2. Hazards identification.

2.1 Classification of the substance or mixture

	Hazard Classes	Hazard Statements
Classification according to OSHA 29CFR 1910.1200:	Not Classified	None

2.2 Label elements

Labeling according to OSHA 29CFR 1910.1200

Hazard pictograms :	Not required
Signal word :	None
Hazard statements:	None
Precautionary statements:	None

2.3 Other Hazards None

SECTION 3. Composition/information on ingredients.

3.2 Mixture

Ingredients	EC Number	CAS Number	Classification	Concentration % w/w
Sodium Carbonate	207-838-8	497-19-8	Eye irritation 2 (H319)	3.1

SECTION 4. First aid measures.

4.1 Description of first aid measures

After inhalation ..... If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

After skin contact ..... Flush skin with water. Cover the irritated skin with an emollient. Remove contaminated clothing and shoes. Cold water may be used. Wash clothing before reuse.

After eye contact ..... Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Seek medical attention if irritation develops.

After swallowing ..... Do NOT induce vomiting unless directed to do so by medical personnel. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband. Never give anything by mouth to an unconscious person.

4.2 Most important symptoms and effects, both acute and delayed: May cause slight skin or eye irritation

4.3 Recommendation of any immediate medical Attention or special treatment needed: None

SECTION 5. Firefighting measures.

5.1 Extinguishing media: Use extinguishing measures suitable for local circumstances and the surrounding environment

5.2 Special hazards arising from the substance or mixture : None

5.3 Advice for firefighters: Wear protective equipment suitable for fire conditions, including respiratory protective gear.

SECTION 6. Accidental release measures.

6.1 Personal precautions, protective equipment and emergency procedures: In the case of spilled mixture wear safety gloves to prevent skin contact. In the case of a large spill, additional protection is recommended.

6.2 Environmental precautions: Do not discharge mixture to sewer system or waterways.

6.3 Methods and material for containment and clean up: Absorb in paper towel and discard in appropriate waste. Clean with water afterwards.

6.4 References to other sections: For safe handling refer to Section 7; For information on PPE refer to Section 8; For disposal information refer to Section 13.

SECTION 7. Handling and storage.

7.1 Precautions for safe handling: Practice good chemical hygiene when handling. Avoid contact with eyes, skin, and clothing.

7.2 Conditions for safe storage, including any incompatibilities: Store kits in original packaging in well ventilated areas away from heat.

7.3 Specific end use(s): Apart from those specified in Section 1.2, no other specific uses are stipulated.

SECTION 8. Exposure controls/personal protection.

8.1 Control Parameters

Components with limit values that require monitoring at the workplace: None

8.2 Exposure controls

8.2.1 Engineering Controls: No specific recommendations, use in well ventilated areas

8.2.2 Recommendations for PPE: Safety glasses with side shields, goggles. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU). Eye and face protection regulations are described by OSHA (US) in 29CFR1910.133. Do not wear contact lenses when working with chemicals

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Appropriate respiratory protection should be determined according to local conditions using risk analysis protocols. An approved disposable air purifying particulate respirator may be used as a backup to engineering controls. Always use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

8.2.3 Environmental Controls: Contain spills, do not release to the environment.

SECTION 9. Physical and chemical properties.

9.1 Information on basic physical and chemical properties :	Clear liquid, colorless to slight yellow.
a) Appearance:	None
b) Odor:	No Data Available
c) Odor Threshold:	9.6
d) pH:	No Data Available
e) Melting point/freezing point:	No Data Available.
f) Boiling point/Boiling range:	Not Data Available.
g) Flash point:	No Data Available
h) Evaporation rate:	Not Data Available
i) Flammability (solid, gaseous):	
j) Upper/lower flammability or explosive limits:	No Data Available
k) Vapor pressure:	No Data Available
l) Vapor density	No Data Available
m) Relative density:	No Data Available
n) Solubility(ies):	Fully miscible, water.
o) Partition Coefficient: n-Octanol/water:	No Data Available
p) Auto-ignition temperature:	No Data Available
q) Decomposition temperature:	No Data Available
r) Viscosity:	No Data Available
s) Explosive properties:	No Data Available.
t) Oxidizing properties:	No Data Available

9.2 Other information: No further relevant information available.

SECTION 10. Stability and reactivity.

10.1 Reactivity:	No data available
10.2 Chemical Stability:	Stable under normal temperatures and pressures.
10.3 Possibility of hazardous reactions:	Under normal conditions of storage and use, hazardous reactions will not occur.
10.4 Conditions to avoid:	No specific data
10.5 Incompatible materials:	No Data Available
10.6 Hazardous decomposition products:	Under normal conditions of storage and use, hazardous decompositions products should not be produced.

SECTION 11. Toxicological information.

The toxicological properties of this product have not been investigated

SECTION 12. Ecological information.

12.1 Toxicity	No data available
12.2 Persistence and degradability :	No Data Available
12.3 Bio accumulative potential :	No Data Available
12.4 Mobility in soil :	No Data Available
12.5 Results of PBT and vPvB assessment:	Not Carried Out
12.6 Other adverse effects:	No Data Available

SECTION 13. Disposal considerations.

Hand over to hazardous waste disposers.

Follow federal, state and local regulations for waste control regulations. US EPA guidelines for waste classification determination is listed in 40 CFR part 261.3; follow European Directive on waste, 2008/98/EC.

SECTION 14. Transport information.

14.1 UN-Number:	Non-regulated, non-hazardous for transport
14.2 UN proper shipping name:	Non-regulated, non-hazardous for transport
14.3 Transport hazard class(es):	Non-regulated, non-hazardous for transport
14.4 Packing group:	Non-regulated, non-hazardous for transport
14.5 Environmental hazards:	None
14.6 Special precautions for user :	None
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:	Not applicable

SECTION 15. Regulatory information.

15.1 Safety, health, and environmental regulations

US Federal Regulations

OSHA	Not a hazardous material
SARA 313	Not listed

US State Regulations

European/International Regulations

European labeling in accordance with EC Directives	Not hazardous according to European directives
15.2 Chemical Safety Assessment	Not carried out

SECTION 16. Other information.

This information is true based on our present knowledge. However, EnviroLogix makes no representation of its accuracy or completeness. Persons receiving this information must exercise their independent judgment in determining the product's safety and suitability for its intended use. This document shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

EnviroLogix Inc.
EHS Department

Codes:

H319 Causes serious eye irritation

Summary Guide for Approved Matrices							
Approved Matrix	**Add to Sample Extraction Vessel (in this order)**	**Then shake immediately**	**Clarify**	**Run the Base Range Protocol First, followed by Dilution A, if necessary**	**Pre-mix as noted, then Transfer to Reaction Tube**	**Add Strip for**	**Read in QuickScan: Dilution Tab Should Display**
Wheat (MG1)	1. 20-50 g sample 2. 5 mL Grain Buffer** per g sample	30 sec highest speed on shaker table or 30 sec by hand	Centrifuge 30 sec at 2000 x g (rcf, **not rpm**)	Base Range 0 – 30 ppb	**Pre-Mix** 50 µL DB3 buffer + 200 µL clarified extract in Reaction Tube	10 min.	1:1 (this is software default)
				Dilution A 30 – 100 ppb (wheat only)	**Pre-Mix** 1 mL of Grain Buffer** + 200 µL clarified extract in Reaction Tube **Transfer** 200 µL of this pre-mix + 50 µL DB3 buffer	10 min.	1:A (this must be selected)
Corn (MG2)	1. 20-50 g sample 2. 4 mL Grain Buffer** per g sample	30 sec highest speed on shaker table or 30 sec by hand	Centrifuge 30 sec at 2000 x g (rcf, **not rpm**)	Base Range 0 – 30 ppb	**Pre-Mix** 50 µL DB3 buffer + 200 µL clarified extract in Reaction Tube	10 min.	1:1 (this is software default)

Notes:

*Use distilled, deionized, or flat (non-carbonated) bottled water

**Prepare Grain Buffer by diluting Grain Buffer Concentrate 20-fold using 19 parts water and one part concentrate, mix to make homogenous. Read "Prepare Grain Buffer" step on page 6.

Summary Guide for Approved Matrices (cont.)								
Approved Matrix	**Add to Sample Extraction Vessel (in this order)**	**Then shake immediately**	**Clarify**	**Run the Base Range Protocol First, followed by Dilution A and Dilution B Protocols, if necessary**	**Pre-mix as noted, then Transfer to Reaction Tube**	**Add Reaction Tube to Incubator Set at 22°C**	**Add Strip for**	**Read in QuickScan: Dilution Tab on the Result Page Should Display**
Corn Common Extraction (MG3)«	1. 25g sample 2. 1 EB17 pouch 3. 75 mL water* 4. Immediately shake vigorously for 10 seconds by hand *---OR---* 1. 50g sample 2. 2 EB17 pouches 3. 150 mL water* 4. Immediately shake vigorously for 10 seconds by hand	1 min highest speed on shaker table or 2 min by hand	Filter	Base Range 0 – 30 ppb	**Pre-Mix** 100 µL DB5 buffer + 100 µL clarified extract in Reaction Tube	Acclimate tube for 2 min^	4 min.	1:1 (this is software default)
				Dilution A 30 – 100 ppb	**Pre-Mix** 400 µL Dil'n Sol'n† + 100 µL clarified extract **Transfer** 100 µL of this Pre-Mix and 100 µL DB5	Acclimate tube for 2 min^	4 min.	1:A (this must be selected)
				Dilution B 100 – 300 ppb	**Pre-Mix** 200 µL Dil'n Sol'n† + 100 µL pre-mix extract from Dil A **Transfer** 100 µL of this Pre-Mix and 100 µL DB5	Acclimate tube for 2 min^	4 min.	1:B (this must be selected)

Custom Corn 1 (MG13)	1. 25g sample 2. 1 EB17 pouch 3. 75 mL water* 4. Immediately shake vigorously for 10 seconds by hand *---OR---* 1. 50g sample 2. 2 EB17 pouches 3. 150 mL water* 4. Immediately shake vigorously for 10 seconds by hand	1 min highest speed on shaker table or 2 min by hand	Filter	Base Range 0 – 30 ppb	**Pre-Mix** 100 µL DB5 buffer + 100 µL clarified extract in Reaction Tube	Acclimate tube for 2 min^	4 min.	1:1 (this is software default)
				Dilution A 30 – 100 ppb	**Pre-Mix** 400 µL Dil'n Sol'n† + 100 µL clarified extract **Transfer** 100 µL of this Pre-Mix and 100 µL DB5	Acclimate tube for 2 min^	4 min.	1: A (this must be selected)

Notes:

*Use distilled, deionized, or flat (non-carbonated) bottled water

†Dilution Solution for Corn Common Extraction (MG3 and MG13) = Mix 1 x EB17 pouch with 150 mL water

“Corn Common Extraction (MG3 and MG13) requires EB17 pouches (ACC-117), DB5 buffer (KR-266-7) purchased separately.

^The tube acclimation step is only required if the temperature of the testing environment is unknown or outside of 20 - 24°C (68 - 75°F)