

Catalog Number AQ 113 BG

Part #10320

Highlights:

- Quantitative and traceable results in QuickScan
- Read strips wet – no drying necessary
- Simple protocol

Contents of Kit:

- 50 QuickTox Strips packed in a moisture-resistant canister
- 50 reaction vials
- 100 pipette tips
- Grain Buffer Concentrate
- DB3 Buffer
- Available in 50-strip individual kit format or bulk packaging

Items Not Provided:

- Orbital/rotary shaker
- Plastic sample cups with lids* or other sample extraction vessels
- Water for diluting Grain Buffer Concentrate
- Graduated cylinder*
- Pipette(s) to deliver 50 and 200 μL *
- Timer
- Scissors
- QuickScan System*
- Mini-centrifuge and vials*

*Available as accessories – see list on Page 3



Measure Grain Buffer, add to ground sample

Intended Use

This Kit is designed to quickly extract and screen wheat and corn for the presence of Ochratoxin-A residues. The QuickTox Kit is designed to provide quantitative results in these grains for Ochratoxin-A residues ranging from 1.5 ppb to 30 ppb in the standard assay. For wheat the range is extended to 100 ppb with an additional dilution.

How the Test Works

A composite sample is collected, ground and then extracted to solubilize any Ochratoxin-A present. Each sample should be ground and extracted with room temperature Grain Buffer. This extract is further diluted with DB3 Buffer for testing with the QuickTox Kit.

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 vial. The sample extract travels up the membrane strip and is absorbed into the larger pad at the top of the strip. At ten minutes, the strip is cut off 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.



Preparation of the Sample

Please note: sample extract should be tested immediately after dilution with DB3 Buffer (Steps 6&7). Make sure strips and DB3 Buffer are at room temperature and ready for use before the dilution step.

Determine size of sample

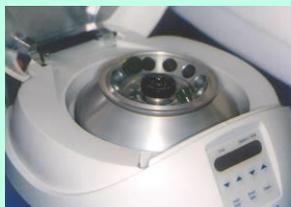
1. Collect a composite sample according to your own sampling plan or USDA/GIPSA guidelines. Consult USDA/GIPSA reference documents such as www.gipsa.usda.gov/fgis/handbook/gihbk1_inspec.aspx to help design a plan that fits your needs.
2. Grind samples using a grinder or mill which provides a sample with a consistency comparable to the standard setting of "Turkish" on a Bunn grinder. Mix ground material thoroughly before sub-sampling. The ground sample should pass through a 20-mesh sieve.

Prepare Grain Buffer

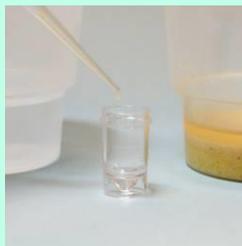
3. In a clean vessel with a cover, dilute the Grain Buffer Concentrate **20 fold** using 19 parts water and one part concentrate. Mix to make homogenous. (For example: 25 mL Buffer Concentrate into 475 mL water.). Tap water may be used for dilution, but purified water (distilled and/or deionized) yields optimal results. If prepared with purified water, Grain Buffer can 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).



Shake mechanically or by hand



Remove a portion of extract to centrifuge tube and spin for 3 minutes at 2000 x g



Get a new tip, add Buffer to vial, discard tip. Get another new tip, add extract, mix well, discard tip.



Place strip in vial
Wait 10 minutes for results

Extract sample with Grain Buffer

4. Weigh 20 to 50 grams of milled sample into a disposable sample cup with lid or other suitable container.
5. Calculate, measure and add Grain Buffer according to sample type:
 - **Wheat:** Add **five volumes** of room temperature Grain Buffer (5 mL per gram of sample, i.e. 20 grams, add 100 mL).
 - **Corn:** Add **four volumes** of room temperature Grain Buffer (4 mL per gram of sample, i.e. 20 grams, add 80mL).
6. Cap sample cup tightly and place on shaker at the highest speed, or shake vigorously by hand, for 30 seconds. Samples that are not thoroughly mixed may adversely affect test results due to incomplete extraction.
7. Immediately remove a portion of the sample and centrifuge it for 3 minutes at 2000 x g (not RPM). Consult centrifuge manual for g force calculation, and follow manufacturer's instructions for operation and balancing.

Dilute sample with DB3 Buffer (use 2 separate pipette tips)

8. With a **new** pipette tip, transfer 50 μ L of DB3 Buffer into the reaction vial. Discard tip.
9. Using **another new** pipette tip, remove 200 μ L from the centrifuged sample and add to the reaction vial containing the DB3 Buffer and mix well with pipette by stirring or drawing liquids up and down in the pipette tip. Discard pipette tip.

NOTE: Samples that are not thoroughly mixed and/or accurately pipetted will adversely affect test results. After adding the sample, the final volume in the reaction vial should be 250 μ L. Do not reuse diluted samples. Always use a new reaction vial and two pipette tips for each sample, and discard vials and tips after use.

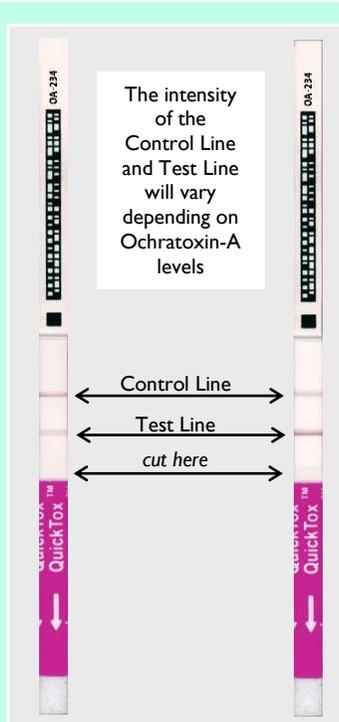
For testing wheat samples at levels greater than 30 ppb:

If after running and reading the test, the initial result is greater than 30 ppb (" $>$ 30 ppb" on QuickScan), and further knowledge about the level of contamination is desired, wheat samples can be retested by further dilution of the sample extract.

1. In a separate tube (not provided), combine 1 mL of Grain Buffer and 200 μ L of the centrifuged sample. **Mix well.**
2. Using a calibrated pipette with a **new tip**, place 50 μ L DB3 Buffer into a reaction vial.
3. With a fresh pipette tip, add 200 μ L of the newly diluted extract to the reaction vial containing Buffer. Mix thoroughly.
4. Follow the instructions under How to Run. Select 1:6 under the dilution tab on QuickScan Results Screen—the System will calculate and record the Ochratoxin-A level in diluted samples.

How to Run the QuickTox Strip Test

1. Allow refrigerated canisters to come to room temperature before opening. Remove the QuickTox Strips to be used. Avoid bending the strips. Reseal the canister immediately.
2. Place the strip into the reaction vial containing the DB3 Buffer and sample extract. The arrow tape on the end of the strip should point into the reaction vial.
3. Sample extract will travel up the strip (flow may not be visible immediately—this is expected and normal). Reaction vials will stand on their own.



Cut strip and place in QuickScan reader immediately — no drying step!



Place strip in QuickScan carrier

- Allow the strip to develop for **10** minutes. Immediately cut off and discard the bottom section of the strip covered by the arrow tape. Insert strip into the QuickScan reader for quantitation.

Use of the QuickScan System

Detailed instructions for use of the QuickScan System are supplied with each unit, and can also be found at envirologix.com/quickscan. 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. Results are then recorded in an electronic worksheet, allowing each user to report and track data easily.

Results are reported in the range of 1.5 to 30 ppb. Results less than 1.5 ppb are reported as "<LOD" (less than Limit of Detection) and results greater than 30 ppb are reported as "> 30 ppb." If quantification is desired above 30 ppb for wheat samples, a further dilution of the sample extract can be performed (see "For testing wheat samples at levels greater than 30 ppb" above).

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. Do not open the desiccated canister until ready to use the strips.

Cross-reactivity

The following mycotoxins have been tested with this kit and no false positive results occurred at the 100 ppm level:

- Aflatoxin B₁
- Deoxynivalenol (DON)
- Fumonisin B₁
- Zearalenone

Precautions and Notes

- 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).
- This product is currently not applicable for use in testing any other grains.
- Pipettes lose calibration accuracy over time. Calibrate or replace pipettes at least annually.
- This assay is calibrated against reference samples supplied by Trilogy Analytical Laboratory, Washington, MO, and other vendors and associated HPLC data.
- As with all tests, it is recommended that results be confirmed by an alternative method when necessary.
- The assay has been optimized for use with the protocol provided in the kit. Deviation from this protocol may invalidate the results of the test. Proper and thorough mixing, along with accurate pipetting, are essential to accurate results.
- QuickScan has the capability of reporting results for diluted wheat samples up to 180 ppb. The assay has been validated for samples containing up to 100 ppb Ochratoxin-A.



- 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 seed lot 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 or protein in question.
- Strips must be read wet promptly at ten minutes.
- Protect all components from hot or cold extremes of temperature when not in use. Do not leave in direct sunlight or in vehicle.
- For convenience, accessories can be ordered from EnviroLogix (see list, below).

Accessories:

The following Accessories are available through EnviroLogix:



<u>Item</u>	<u>Catalog No.</u>	<u>Part #</u>
▪ QuickScan™ System	ACC 331	12721
▪ Sample cups with lids (50/package)	ACC 012-50	11224
▪ Sample cups with lids (500/case)	ACC 012-CS	10167
<i>for samples up to 30 g; larger samples require different mixing vessels</i>		
▪ Graduated cylinder (100 mL)	ACC 068	11207
▪ MiniPet pipette 50 µL	ACC 051	11203
▪ MiniPet pipette 200 µL	ACC 067	11206
▪ Microcentrifuge	ACC 064 E	11204
▪ Centrifugation Set: Disposables for 50 tests	ACC 010	11214





**For Technical Support
Contact Us At:**

EnviroLogix
500 Riverside Industrial
Parkway
Portland, ME 04103-1486
USA
Tel: (207) 797-0300
Toll Free: 866-408-4597
Fax: (207) 797-7533

e-mail:
info@envirologix.com

website:
www.envirologix.com



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 WARRANTY IS EXCLUSIVE. The sole and exclusive obligation of EnviroLogix shall be to repair or replace the defective Products in the manner and for the period provided above. EnviroLogix shall not have any other obligation with respect to the Products or any part thereof, whether based on contract, tort, strict liability or otherwise. Under no circumstances, whether based on this Limited Warranty or otherwise, shall EnviroLogix be liable for incidental, special, or consequential damages.

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 G6C 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)-797-4300

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 Carbamate	207-838-8	497-19-8	Irritant 2 (H319)	3.1

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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:
Safely gloves with side shields, goggles. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 186 (EU). Eye and face protection regulations are described by OSHA (US) in 29CFR 1910.133. 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 :

a) Appearance:	Clear liquid, colorless to slight yellow.
b) Color:	None
c) Odor Threshold:	No Data Available
d) pH:	9.6
e) Melting point/freezing point:	No Data Available
f) Boiling point/Boiling range:	No Data Available
g) Flash point:	No Data Available
h) Evaporation rate:	Not Data Available
i) Flammability (solid, gaseous):	No Data Available
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:	1 (fully miscible, water).
n) Solubility(ies):	No Data Available
o) Partition Coefficient: 1-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.

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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.

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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 decomposition 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 v-PvB 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 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

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SECTION 15. Regulatory information.

15.1 Safety, health, and environmental regulations

US Federal Regulations	Not a hazardous material
OSHA	Not listed
SARA 313	

US State Regulations

European/International Regulations

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

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