ENVIROLOGIX

QuickTox™ Kit for QuickScan T-2/HT-2 Flex

Catalog AQ 314 BG *Part #12206*

Validated Matrices and Detection Ranges:

Matrix Group ID	Matrices	Limit of Detection (LOD)^	Assay Range	Range with Dilution*
T-2 MG1	Wheat	50 ppb	50 – 500 ppb	n/a
T-2 MG3	Corn	50 ppb	50 - 900 ppb	900 - 2500 ppb
T-2 MG4	Corn- High Sensitivity	25 ppb	25 - 600 ppb	n/a
T-2 MG12	Custom Corn 1	25 ppb	25 - 600 ppb	n/a

^Do not assume accuracy for results reported below the protocol's LOD.
**Do not assume accuracy for results reported below 900 or above 2500 ppb.*

Scan to View Verified Matrices:

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 5.8.1 or later is required
- DB6 Buffer is matched with specific T-2/HT-2 Flex kit lot numbers. Be sure to use DB6 with its matched kit. There is a "use with" label on the DB6 that will indicate the matching T-2/HT-2 Flex Lot Number.
- **Wheat Only** - Run immediately after extraction. Do not reuse extract after initial use.

- **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.

Table A on page 9 is provided as a Summary Guide for testing each matrix. More details for each step in the process are described below, and are important for achieving optimal, accurate results.

Contents of Kit:

- 50 QuickTox Strips packed in a moisture-resistant canister
- 50 Reaction tubes
- 100 pipette tips
- DB6 Buffer, kit lot specific
- Multi-Matrix Barcode Card, kit lot specific

Items Not Provided:

- QuickScan System*
- Incubator base and block*
- Bunn grinder or equivalent
- 20-mesh screen
- Digital scale for weighing samples
- Extraction cups with lids (for 20g samples) * or other suitable vessels for sample extraction
- Graduated cylinder*
- Orbital/rotary shaker
- Pipette to deliver 100 µL*
- Tubes and pipettes for centrifugation*
- Microcentrifuge*
- Tubes for additional dilution of high samples*
- Pipette + tips to deliver larger volumes (>200µL to 1 mL) for dilutions*
- Timer
- Scissors
- Distilled, deionized or bottled water

***Available as Accessories**

Available Accessories:

Item	*Catalog No.*	*Part #*
QuickScan™ System	ACC 331	12721
Sample cups w/lids (500/case) *For extracting samples up to 30g; extracting larger samples requires different vessels. Sample cups may also be used to collect filtrate.*	ACC 012-CS	10167
Graduated cylinder (100 mL)	ACC 068	11207
Coffee filters (100)	ACC 083	11434
MiniPet pipette 100 µL (one/location free)	ACC 041	11202
Centrifugation Set: Disposables for 50 tests	ACC 010	11214
Microcentrifuge	ACC 064 E	11204
Incubator	ACC BSH301	12458
1 mL adjustable pipette	ACC 1303-PRO-1000	11964
Pipette tips for 1 mL pipette (50)	20-0127	12243
Dilution tubes (blue)		

The QuickTox Kit for QuickScan T-2/HT-2 Flex is designed to quickly provide quantitative results for the presence of T-2/HT-2 toxin. Results below the LOD or outside the ranges validated may not be accurate. Please refer to Matrix Groups table on page 1 for the Limit of Detection (LOD) and Assay Range(s) for each matrix.



How the Test Works

A composite sample is first collected, then extracted to solubilize any T-2/HT-2 toxin present. Each sample should be ground to a fineness of 20 mesh and extracted using the specified extractant. This extract is further diluted 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 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 test time, 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.

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 and maximum reported value. When the user selects the MG during testing, the QuickScan System software reads the test strip, retrieves the lot specific information that was uploaded using the Multi-Matrix Barcode Card (MMBC), and uses the appropriate curve to obtain a result for the matrix being tested.

Assay Preparation

Table A on page 9 is provided as a Summary Guide for testing each matrix. More details for each step in the process are described below, and are important for achieving optimal, accurate results.

Turn on the incubator and set to 22°C for a minimum of 10 minutes before testing. Ensure the temperature display has stabilized and indicates "OK" before starting the assay. Make sure all reagents including samples, strips, buffer, and sample extractant are at room temperature and ready for use before starting the assay. The sample extract should be tested shortly after dilution with buffer.

Preparation of the Sample

Determine number and size of sub-samples and weigh out

1. Collect a composite sample according to your own sampling plan or USDA/GIPSA guidelines. Consult USDA/GIPSA reference documents to help design a plan that fits your needs.
2. Grind samples using a Bunn grinder or mill which provides a sample that passes through a 20-mesh sieve. Mix ground material thoroughly before sub-sampling.
3. Weigh samples into containers that will allow enough head room for the liquid to move forcefully when shaken vigorously.

Extract samples

1. Consult the Summary Guide Table A to determine the volume and type of Extractant that has been validated for the matrix. To calculate the volume of liquid to add:

   Multiply the sample weight (in grams) x ratio (in milliliters, mLs)

   For example, 20 grams x 5 = 100 mL (water) to add to corn
2. Make sure the grain is completely wet, and then mix thoroughly as stated in the table. Liquid should be moving forcefully through the matrix to extract the T-2/HT-2.
3. The order of addition has been optimized. Please follow this order.
4. Samples that are not thoroughly mixed and <u>fully wetted</u> may adversely affect test results due to inconsistent extraction.

Clarify extracts (again, adhere to the Summary Guide table for optimal performance)

1. <u>Filtering</u>: Add an approved coffee filter (example: BUNN part #BUNBCF100B) to a clean vessel and pour extract into the filter. Allow the sample to sit for up to 2 minutes. Pull back an edge of the filter to gain access to the filtered extract.

2. Centrifugation: Fill a microcentrifuge tube with extract and centrifuge for the specified time at 2000 x *g* (***rcf, not rpm***). The top layer is the extract that will be used in the testing.

Add reagents to reaction tube

1. Take care not to contaminate the DB6 Buffer. Keep Buffer covered when not in use, and use a new pipette tip for each test. **Please note**: DB6 Buffer is matched with specific T-2/HT-2 Flex kit lot numbers; be sure to use the DB6 that is provided with the kit (do not mix and match buffers with different kit lots). There is a "use with" label on the DB6 that will indicate the matching T-2/HT-2 Flex lot number.
2. Follow Table A instructions for Buffer and extract order of addition.
3. Use two pipette tips (one for Buffer, one for extract) for each sample.
4. Mix Buffer and sample extract thoroughly by stirring or drawing the liquids up and down in the pipette tip. Samples that are not thoroughly mixed and/or accurately pipetted will adversely affect test results.
5. Do not reuse diluted samples. Use a new reaction tube for each sample.

How to Run the QuickTox Strip Test

A minimum of 10 minutes before testing is to start, turn on the incubator and set to 22°C (follow manufacturer's instructions for setting temperature). Ensure the temperature display has stabilized and indicates “OK” before starting the assay. If testing is planned throughout the day it recommended to turn the incubator on in the morning and leave it on throughout the day.

1. Allow refrigerated canisters to come to room temperature before opening.
2. Add the reaction tube containing the diluted sample to the incubator (be sure it has reached 22°C). If the temperature of the testing environment is unknown or outside of the range 20-24°C (68-75°F), **allow the sample to acclimate for 2 minutes before proceeding.**
3. Remove the QuickTox Strips to be used. Avoid bending the strips. Reseal the canister immediately.
4. Place the strip into the reaction tube containing the Buffer and sample extract. The arrow tape on the end of the strip should point into the reaction tube. **Note:** Wheat Only - Run immediately after extraction. Do not reuse extract after initial use.
5. Allow the strip to develop for the time noted in the summary table.
6. 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. 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 up to a maximum ppb for each matrix. Results will be reported down to ‘0’, but accuracy should not be assumed for results below the LOD for the matrix being tested. Refer to Table A for the Matrix Group LOD levels and assay range. Results greater than the maximum are reported as “>900 ppb”, for example. If quantification of a sample above the maximum ppb is desired, a further dilution of the sample extract can be performed if indicated in the Table A Summary Guide (see “Range with Dilution”).

Range with Dilution

If after running and reading the test, the initial result is greater than the assay maximum, and further knowledge about the level of contamination is desired, samples can be retested by further dilution of the sample extract if indicated in the Table A Summary Guide.

1. In a separate tube (not provided) combine extract with water to create a 1:6 dilution. Example: 1 part clarified extract + 5 parts water; 100 µL + 500 µL). Measure carefully and mix well.
2. Rerun assay as before, adding DB6 Buffer + diluted extract into the reaction tube, acclimating for 2 minutes in the incubator (if room temperature is unknown or outside the range of 20-24°C [68-75°F]), and adding the strip for the time specified. Example: for corn, mix 100 µL Buffer + 100 µL diluted extract from step 1 (extracted 1:6 in water) in a reaction tube, place tube in incubator, acclimate if necessary, and add strip for 5 minutes.
3. In the QuickScan Results Screen, choose 1:A under the Dilution tab (dropdown menu). The System will calculate and record the T-2/HT-2 level in the diluted sample.

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, DON (deoxynivalenol), Fumonisin B1, Ochratoxin A, and Zearalenone.

Precautions and Notes

- Strips must be read wet promptly at the specified time for the matrix run to ensure accurate results.
- Accuracy of results less than the stated LOD for the matrix being tested, should not be assumed.
- For diluted samples, accuracy outside the qualified range should not be assumed.
- This product is currently not applicable for use in testing any other crops beyond those specified in this Product Insert.
- Pipettes lose calibration accuracy over time. Calibrate or replace pipettes at least annually.
- The corn assay is calibrated against corn reference samples supplied by Trilogy Analytical Laboratory, Washington, MO, using LC/MS/MS.
- 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, accurate pipetting, and using the correct corresponding DB6 Buffer provided in the kit are essential to accurate results.
- 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.
- Protect all components from hot or cold extremes of temperature when not in use. Do not leave in direct sunlight or in vehicle.
- Observe any applicable regulations when disposing of samples and extracts.



For Technical Support Contact Us At:

EnviroLogix
500 Riverside Industrial Parkway
Portland, ME04103-1486USA
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.

ENVIROLOGIX MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. The warranty provided herein and the data, specifications and descriptions of EnviroLogix products appearing in EnviroLogix published catalogues and product literature are EnviroLogix' sole representations concerning the Products and warranty. No other statements or representations, written or oral, by EnviroLogix' employees, agents or representatives, except written statements signed by a duly authorized officer of EnviroLogix Inc., are authorized; they should not be relied upon by the customer and are not a part of the contract of sale or of this warranty.

EnviroLogix does not warrant against damages or defects arising in shipping or handling, or out of accident or improper or abnormal use of the Products; against defects in products or components not manufactured by EnviroLogix, or against damages resulting from such non-EnviroLogix made products or components. EnviroLogix passes on to customer the warranty it received (if any) from the maker thereof of such non-EnviroLogix made products or components. This warranty also does not apply to Products to which changes or modifications have been made or attempted by persons other than pursuant to written authorization by EnviroLogix.

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.

EnviroLogix, the EnviroLogix logo, QuickTox, and QuickScan are trademarks of EnviroLogix Inc.

© EnviroLogix 2025

ENVIROLOGIX

Revision nr.2
Dated 01/01/2019

Page n. 1 / 5

Safety data sheet

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

1.1 Product identifier
Trade name: **DB 6 Dilution Buffer**
Part number 11151 (KR-268)

1.2 Relevant identified uses of the substance or mixture and uses advised against application of the substance / the 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
Phone: (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

Classification according to 29CFR 1910.1200: Not Classified

2.2 Label elements
Labeling according to 29CFR 1910.1200

Pictogram: None
Signal word: None
Hazard Statements: None

2.3 Other Statements: None

SECTION 3. Composition/information on ingredients.

3.2 Mixture

Chemical name	CAS No	EC No	Classification According to 29CFR 1910.1200	Amount (%)
Sodium Tetraborate Decahydrate	1303-96-4	215-540-4	H360 Rep 1B	< 3 %

SECTION 4. First aid measures.

4.1 Description of first aid measures

After inhalation : In case of inhalation. Remove to fresh air. If not breathing give artificial respiration. Get medical attention immediately.

After skin contact : In case of skin contact. Remove contaminated clothing and shoes immediately. Wash affected area with mild soap or detergent for at least 10 minutes or until no evidence of chemical remains.

After eye contact : In case of eye contact, immediately flush eyes with plenty of water for at least 15 minutes. Lifting eyelids occasionally, until no evidence of chemical remains. Get medical attention immediately.

After swallowing : In case of ingestion. DO NOT Induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Call a physician immediately.

4.2 Most important symptoms and effects, both acute and delayed: None

4.3 Indication of any immediate medical attention and special treatment needed: None

SDS DB6 Dilution Buffer

14.1 UN-Number DOT, ADR, ADN, IMDG, IATA :	Not Hazardous for Transport
14.2 UN proper shipping name DOT, ADR, ADN, IMDG, IATA :	Not Hazardous for Transport
14.3 Transport hazard class(es) DOT, ADR, ADN, IMDG, IATA):	Not Hazardous for Transport
14.4 Packing group (DOT, ADR, IMDG, IATA):	Not Hazardous for Transport
14.5 Environmental hazards	No environmental hazard.
14.6 Special precautions for user :	None
14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC code:	No information available.

SECTION 15. Regulatory information.

15.1 Safety, health, and environmental Regulations	Not a hazardous material
US Federal Regulations	
OSHA	Not listed
SARA 313	
US State Regulations	Not Listed
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

EHS Department
EnviroLogix Inc.

Codes:
H360 May damage fertility or the unborn child

Table A: Validated Matrices

Validated Matrices	Matrix Group	Assay Range	Add grain to vessel first	Add Extractant second	Fully wet sample, then mix	Clarify	Add to Reaction Tube and mix	Add Reaction Tube to Incubator set at 22°C	Add strip for	For testing >900 ppb, dilute extract†
Wheat (Standard Format)**	T-2 MG1	50 ppb (LOD) to 500 ppb	20g or 50g	5x vol water*	30 seconds at highest speed on shaker table, or vigorously by hand	Filter (up to 2 min) or 30 sec at 2000 x *g*	100 µL DB6 buffer + 100 µL extract	Acclimate tube for 2 min^	5 min	-----
Corn (Standard Format)	T-2 MG3	50 ppb (LOD) to 900 ppb 900 to 2500 ppb with dilution	20g or 50g	5x vol water*	30 seconds at highest speed on shaker table, or vigorously by hand	Filter (up to 2 min)	100 µL DB6 buffer + 100 µL extract	Acclimate tube for 2 min^	5 min	1:6 in water followed by 1:1 with buffer; select 1:A on Dilution tab
Corn (High Sensitivity Format)	T-2 MG4	25 ppb (LOD) to 600 ppb	20g or 50g	3x vol water*	30 seconds at highest speed on shaker table, or vigorously by hand	Centrifuge 30 sec at 2000 x *g*	100 µL DB6 buffer + 100 µL extract	Acclimate tube for 2 min^	5 min	-----
Custom Corn 1	T-2 MG12	25 ppb (LOD) to 600b	20g or 50g	3x vol water*	30 seconds at highest speed on shaker table, or vigorously by hand	Centrifuge 30 sec at 2000 x *g*	100 µL DB6 buffer + 100 µL extract	Acclimate tube for 2 min^	5 min	-----

Notes:

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

**Run immediately after extraction. Do not reuse extract after initial use.

^ 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)

† Follow the protocol outlined under 'Range with Dilution