ENVIROLOGIX

# TotalTox™ DON

*Catalog AQ 304 BG* *Part #12208*

## Validated Matrices and Detection Ranges:

| Matrix Group ID | Matrices | Base Range (ppm) | Range with Dilution (ppm) |
|---|---|---|---|
| DF MG1 | Wheat (AOAC) | 0.1 - 8.0 | 2.0 - 30 |
| DF MG2 | Corn (AOAC) | 0.1 - 8.0 | 2.0 - 30 |
| DF MG3 | Wheat Flour | 0.1 - 8.0 | 2.0 - 30 |
| DF MG4 | Wheat Bran | 0.1 - 8.0 | 2.0 - 30 |
| DF MG5 | Wheat Midds | 0.1 - 8.0 | 2.0 - 30 |
| DF MG6 | Wheat Red Dog | 0.1 - 8.0 | 5.0 - 30 |
| DF MG7 | DDGS | 0.2 - 8.0 | 5.0 - 30 |
| DF MG8 | Corn Gluten Meal | 0.2 - 8.0 | 2.0 - 30 |
| DF MG9 | Corn Germ | 0.2 - 8.0 | 2.0 - 30 |
| DF MG10 | Corn Gluten Feed | 0.29 - 8.0 | 5.0 - 30 |
| DF MG11 | Corn Flour | 0.1 - 8.0 | 2.0 - 30 |
| DF MG12 | Malted Barley | 0.1 - 8.0 | 2.0 - 30 |
| DF MG13 | Barley | 0.1 - 8.0 | 2.0 - 30 |
| DF MG14 | Oats | 0.1 - 8.0 | 2.0 - 30 |
| DF MG15 | Wheat Gluten | 0.2 - 8.0 | 5.0 - 30 |
| DF MG16 | Sorghum | 0.2 - 8.0 | 2.0 - 30 |
| DF MG17 | Soybean Meal | 0.2 - 8.0 | 5.0 - 30 |
| DF MG18 | Milled Rice | 0.2 - 8.0 | 2.0 - 30 |
| DF MG20 | Whole Rye | 0.2 - 8.0 | 2.0 - 30 |
| DF MG21 | Corn Common Extraction | 0.2 - 8.0 | 8.0 - 30 |
| DF MG 24 | White Wheat Flour | 0.1 - 8.0 | 2.0 - 30 |
| DF MG25 | TotalTox Corn Gluten Meal† | 0.1 - 8.0 | 2.0 - 12 |
| DF MG26 | Corn Fermented Protein | 1.0 - 6.0 | n/a |
| DF MG36 | Durum Wheat Flour | 0.1 - 8.0 | n/a |
| DF MG39 | Custom Corn 1 | 0.2 - 5.0 | 5.0 - 30 |

*^ Do not assume accuracy for results reported below the LOD (LOD= low end of the base range).*

**Do not assume accuracy for results reported outside the stated Range with Dilution*

*† Use this matrix group for Corn Gluten Meal if utilizing the TotalTox CGM Common Extraction method; instructions provided in TotalTox EB17/EB18 Extraction Set, ACC-114*

### 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.
- Scanning the side of the MMBC with all MG barcodes enables selection of any of the matrices, or fold MMBC to scan individual barcodes on the reverse to default to only the individual matrix scanned; this skips the selection step during analysis.
- QuickScan Software Version 5.11 or later is required.
- DB6 Buffer is matched with specific TotalTox DON kit lot numbers. Be sure to use DB6 with the kit it is provided with. There is a "use with" label on the DB6 that will indicate the matching TotalTox DON Lot Number.
- This kit has been certified as a *Performance Tested Method*[SM], #121701, by the AOAC Research Institute for detection of DON contamination in corn and wheat matrices up to 30 ppm.

PERFORMANCE TESTED AOAC RESEARCH INSTITUTE LICENSE NUMBER 121701

- **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.

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

# TotalTox™ DON

**Contents of Kit:**

- 50 TotalTox Strips packed in a moisture-resistant canister
- 50 clear Reaction Tubes
- 100 pipette tips
- DB6 Buffer, kit lot specific
- Multi-Matrix Barcode Cards, kit lot specific

**Items Not Provided:**

- QuickScan System*
- Incubator*
- Bunn grinder or equivalent
- 20-mesh screen (available through Seedburo or other vendors)
- Digital scale for weighing samples
- Plastic sample cups with lids* or other extraction vessels
- Graduated cylinder*
- Additional DB6 Buffer *(corn gluten feed only)*
- DB5 Buffer *(corn common extraction only)*
- Orbital/rotary shaker
- Pipette to deliver 100 µL*
- Approved Coffee Filters (EnviroLogix validated)*
- Oster blender with ½ gallon glass vessel (wheat gluten only)
- Timer
- Scissors
- Bottled, distilled or deionized water
- Dilution Tubes for Extended Range testing*
- Microcentrifuge*

*Available as Accessories

**Available Accessories:**

| *Item* | *Catalog No.* | *Part #* |
|---|---|---|
| QuickScan™ System | ACC 351 | 13065 |
| 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 |
| DB6 Buffer *(corn gluten feed only)* | KR-268-11 | 12452 |
| DB5 Buffer *(MG21, corn common extraction only)* | KR-266-7 | 11665 |
| Coffee filters (100) | ACC 083 | 11434 |
| MiniPet pipette 100 µL *(one/location free)* | ACC 041 | 11202 |
| 1 mL adjustable pipette *Helpful for Extended Range testing* | ACC 1303-PRO-1000 | 11964 |
| Pipette Tips (50) for 1 mL pipette | 20-0127 | 12243 |
| Centrifugation Set: Disposables for 50 tests | ACC 010 | 11214 |
| Microcentrifuge | ACC 064 E | 11204 |
| Dilution Tubes (50) *Helpful for Extended Range testing* | ACC 098 | 12236 |
| Incubator | ACC BSH 301 | 12458 |
| TotalTox Extraction Set *For MG21, corn common extraction, if not incorporating TotalTox Aflatoxin* | ACC 117 | 12938 |
| TotalTox EB17/EB18 Extraction Set | ACC-114 | 12978 |
| EB18 10X Extraction Buffer *For MG26, corn fermented protein See instructions and SDS under 'Notes'* | KR 270-530 | 11930 |

# Intended Use

TotalTox DON is designed to quickly extract and screen milled samples for the presence of Deoxynivalenol (DON) residues. The Kit will then provide quantitative results when used in conjunction with the QuickScan System.

- Limit of detection (LOD) = 0.1 ppm for most matrices; refer to Page 1 for details.
- Assay range = up to 8.0 ppm in a base range and up to 30 ppm with additional dilution for most matrices.
- In the assay's Base Range, results are reported from 0 to 8 ppm. Accuracy of results less than LOD for each matrix should not be assumed. Results greater than 8 ppm are reported as "> 8 ppm." When following the Range with Dilution, accuracy should not be assumed for results reported outside the Ranges listed on Page 1.

# How the Test Works




A composite sample is first collected, then extracted to solubilize any DON present. Each sample should be ground to a fineness of 20 mesh and extracted following the protocol specified for the matrix being run. This extract is further diluted for testing with the TotalTox Kit.

Each TotalTox 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.

A unified extraction and analysis protocol for most matrices avoids sample preparation error without compromising test 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: Summary Guide for Approved Matrices on page 11 is provided for testing each matrix. More details for each step in the process are described below, and are important for achieving optimal, accurate results. Notice a special sample preparation protocol for Corn Gluten Feed where additional DB6 is required. Notice a special sample preparation protocol for Whole Rye where intermediate extract dilution has to be applied. Notice Wheat Gluten requires a blender and centrifuge along with a 50g sample size. Notice Corn Common Extraction requires unique sample preparation and assay execution; refer to instructions in Table A.

## Preparation of the Sample

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.

**Determine number and size of sub-samples and weigh out**

1. Collect a composite sample according to your own sampling plan or AMS-FGIS guidelines. Consult AMS-FGIS reference documents to help design a plan that fits your needs.
2. Grind samples using a Bunn grinder or mill which provides a sample such that ≥95% 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**

**Note:** For **MG21** (Corn Common Extraction)**, MG26** (Corn Fermented Protein), **MG39** (Custom Corn 1) extract as directed in Table A on page 11; additional Accessories are required. For **MG25**, TotalTox Corn Gluten Meal Common Extraction, follow instructions for ACC-114, EB17/EB18 Extraction Set.

1. All commodities (except Corn Common Extraction, Custom Corn 1, and TotalTox CGM Common Extraction) require the same 5X extraction ratio with water. For example, 50 grams x 5 = 250 mL (water) to sample

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 DON.
3. The order of addition has been optimized. Please refer to and follow Table A instructions for each matrix regarding the order of addition.
4. Samples that are not thoroughly mixed and fully wetted may adversely affect test results due to inconsistent extraction.

**Clarify extracts** (adhere to Table A for optimal performance)

1. Filtering: 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 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 specific time at 2000 x *g* (***not rpm***). The clear layer is the extract that will be used in the testing.
3. Settling: Allow the sample to sit undisturbed until it separates into two layers. The top layer containing the DON residues will be used in testing. In some instances, a foamy layer will float above the desired top layer. The best technique to retrieve this extract is to tip the extraction cup at a 45 degree angle, exposing the supernatant beneath the foamy layer, avoiding particulates.

Note: Do not allow clarified extracts to sit for an extended period of time before 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 TotalTox DON 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 TotalTox DON 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 TotalTox 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 is 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. If the temperature of the testing environment is unknown or outside of the range of 20-24°C (68-75°F), **allow the sample to acclimate in the incubator for 2 minutes before proceeding.**
3. Remove the TotalTox 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.
5. Allow the strip to develop for the time noted in Table A.
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 8.0 ppm. Results will be reported down to '0', but accuracy should not be assumed for results below the LOD for the matrix being tested; reference Page 1 for the Matrix Group LOD levels. Results greater than 8.0 ppm are reported as ">8.0 ppm."

# Range with Dilution

If after running and reading the test, the initial result is greater than 8 ppm (">8 ppm" on QuickScan), and further knowledge about the level of contamination is desired, samples can be retested by further dilution of the sample extract. Do not assume accuracy for results reported outside the Ranges listed on Page 1 using this Dilution protocol.

1. In a separate tube* combine extract with water to create a 1:8 dilution. Example: 1 part clarified extract + 7 parts water; 100 µL + 700 µL). Measure carefully and mix well.
   *not provided; available as an accessory ACC-098 Dilution Tubes
2. Rerun assay as before, adding Buffer + diluted extract as instructed in Table A into the clear reaction tube (mix, add to the incubator and acclimate if necessary), add a new strip for the time specified. Example: for corn, pipette 100 µL DB6 + 100 µL of the extract diluted with water into a new tube (acclimate), add a new test strip, and allow the strip to develop for the time noted in Table A.
3. In the QuickScan Results Screen, choose "1:A" under the Dilution tab (dropdown menu). The System will calculate and record the DON level in the diluted sample.

# Kit Storage

This TotalTox 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 $B_1$, Fumonisin $B_1$, Ochratoxin A, Zearalenone, T-2 and HT-2.

# 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.
- 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.
- This assay is calibrated against wheat and corn reference samples supplied by Trilogy Analytical Laboratory, Washington, MO, and other vendors and associated HPLC data. Where possible, performance in other sample matrices has been validated using naturally contaminated samples. Where naturally contaminated samples are not available, performance has been validated using fortified samples.
- 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 kit lot specific 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.
- **EB18 Extraction Buffer – IMPORTANT NOTES:** If used, the 10X EB18 Extraction Buffer should be considered an irritant (SDS available at https://www.envirologix.com/wp-content/uploads/2015/06/SDS-10XEB18.pdf. Avoid contact with the skin, eyes, or clothing. Wear personal protective equipment including safety glasses, gloves, and a lab coat when handling.
    - When 10X EB18 is stored refrigerated, a crystalline precipitate may form on the bottom of the container. Warm the buffer to room temperature to resolubilize prior to diluting to the working concentration. The use of a warm water bath and gentle mixing is recommended.
    - **To prepare 1X EB18 Buffer Solution:** Mix 1 part 10X EB18 Extraction Buffer with 9 parts of water.
    - 1X EB18 solution expires one week from date of mixing when stored at room temperature, or 4 weeks when stored at 2-8°C. Bring to room temperature before using.




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## LIMITED WARRANTY

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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: **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





## SECTION 5. Firefighting measures.

**5.1 Extinguishing media:** $CO_2$, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

**5.2 Special hazards arising from the substance or mixture:** None

**5.3 Advice for firefighters:** Wear protective gear appropriate 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 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 cleanup:** Absorb in paper towel or suitable absorbent for larger spills 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 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 in tightly closed, non-metal container, in a corrosive compatible area. Prevent direct sunlight and heat. Store in well aired storage rooms.

**7.3 Specific end use(s):** Apart from the uses mentioned in section 1.2, no other specific uses are stipulated

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## SECTION 8. Exposure controls/personal protection.

**8.1 Exposure limits:**
Components with limit values that require monitoring at the workplace:

| | EH40/2005 | OSHA |
|---|---|---|
| **Sodium Tetraborate Decahydrate** | 8 Hr TWA = 5mg/m³ | 8 Hr TWA = 10 mg/m³ |

**8.2 Exposure Controls:**

8.2.1 Engineering controls: Facilities using this mixture should be equipped with an eyewash and safety shower. Use general or local exhaust ventilation to keep airborne concentrations below permissible exposure limits.

8.2.2 General protective and hygienic measures: The usual precautionary measures should be adhered to when handling chemicals.

Eye Protection: 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

Hand Protection: 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.

Breathing Equipment: 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 (U.S) or CEN (EU).

8.2.3 Environmental exposure controls: Contain spills, do not allow into 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) Odor: | None |
| c) Odor Threshold: | No Data Available |
| d) pH: | 8.6 |
| e) Melting point/freezing point: | No Data Available |
| f) Boiling point/Boiling range: | No Data Available. |
| g) Flash point: | Not applicable. |
| h) Evaporation rate: | No 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: | 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.



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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 decompositions products should not be produced.

## SECTION 11. Toxicological information.

**Information on Toxicological Effects**

Acute effects (toxicity tests): No Data Available

Sensitization: No sensitizing effects known

CMR (carcinogenicity, mutagenicity and toxicity for reproduction) effects: No CMR effects.

Additional toxicological information: No Additional Information

## 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 available as a chemical safety assessment, not required/not conducted.

**12.6 Other adverse effects:** No Data Available

## SECTION 13. Disposal considerations.

Waste treatment methods: Contact a licensed professional waste disposal service to dispose of this material. Disposal of surplus or waste solutions must be in accordance with applicable local, state, and national laws and regulations.

## SECTION 14. Transport information.



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**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: Summary Guide for Approved Matrices

| Matrices | Matrix Group | Add Grain to Vessel First, then Water* | Fully wet sample, then mix | Clarify | Add to the reaction tube and mix | Add tube to Incubator set at 22°C | Add strip for | For testing >8ppm, dilute extract# |
|---|---|---|---|---|---|---|---|---|
| Wheat *(AOAC)* | DF MG1 | 20g to 50g *then* 5X volume of water* (e.g. 20g sample, then 100 mL water) | 30 seconds at the highest speed on shaker table, or vigorously by hand | Filter (2 min maximum) *or* Centrifuge (30 sec) *or* Settle | 100 µL of buffer + 100 µL of clarified extract | Acclimate tube for 2 min^ | 2 min | *Note: Refer to Range Table on Page 1 for range of each matrix* |
| Corn *(AOAC)* | DF MG2 | | | | | | | |
| Wheat Flour | DF MG3 | | | Filter (2 min maximum) | | | | |
| Wheat Bran | DF MG4 | | | | | | | |
| Wheat Midds | DF MG5 | | | | | | | |
| Wheat Red Dog | DF MG6 | | | | | | | |
| DDGS | DF MG7 | | | | | | | 1:8 in water (100 µL sample plus 700 µL water) followed by 1:1 with buffer; select 1:A on Dilution tab |
| Corn Gluten Meal | DF MG8 | | | | | | | |
| Corn Germ | DF MG9 | | | | | | | |
| Corn Flour | DF MG11 | | | | | | | |
| Malted Barley | DF MG12 | | | | | | | |
| Barley | DF MG13 | | | | | | | |
| Oats | DF MG14 | | | | | | | |
| Sorghum | DF MG16 | | | | | | | |
| Soybean Meal | DF MG17 | | | | | | | |
| Milled Rice | DF MG18 | | | | | | | |
| White Wheat Flour | DF MG24 | | | | | | | |
| Durum Wheat Flour | DF MG36 | | | | | | | |
| Corn Gluten Feed | DF MG10 | | | | 200 µL of buffer + 100 µL of clarified extract | | | 1:8 in water followed by **2:1** with buffer; select 1:A on Dilution tab |

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

^ 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'

For **MG25**, TotalTox CGM Common Extraction, follow instructions included with ACC-114, TotalTox EB17/EB18 Extraction Set

## Table A: Summary Guide for Approved Matrices (cont.)

| Matrices | Matrix Group | Add Grain to Vessel First, then Water* | Fully wet sample, then mix | Clarify | Add to the reaction tube and mix | Add tube to Incubator set at 22°C | Add strip for | For testing >8ppm, dilute extract# |
|---|---|---|---|---|---|---|---|---|
| Whole Rye | DF MG20 | 20g to 50g *then* 5X volume of water* (e.g. 20g sample, then 100 mL water) | 30 seconds at the highest speed on shaker table, or vigorously by hand | Filter (2 min maximum), then dilute 1:1 with water | 100 µL of buffer + 100 µL of diluted extract | Acclimate tube for 2 min^ | 2 min | *Note: Refer to Range Table on Page 1 for range of each matrix* 1:8 in water (100 µL sample plus 700 µL water) followed by 1:1 with buffer; select 1:A on Dilution tab |
| Wheat Gluten | DF MG15 | Add 250mL water to blender, *then* 50g sample | Blend at highest speed for 2 minutes | *Immediately* centrifuge for 1 min @ 2000 X *g* | 100 µL buffer + 100 µL clarified extract | | | |
| Corn Common Extraction †*Use EB17 from TotalTox Aflatoxin kit, and purchase additional DB5. If not incorporating TotalTox Aflatoxin, EB17 must also be purchased separately* | DF MG21 | 25g sample 1 EB17 pouch† 75 mL water Shake immediately Or 50g sample 2 EB17 pouches 150 mL water Shake immediately | 1 minute at the highest speed on shaker table, or 2 minutes vigorously by hand | Filter (2 min maximum) or Centrifuge 30 sec. @ 2000 x *g* | 100 µL **DB5**† buffer + 100 µL clarified extract | | 4 min | 1:8 in water followed by 1:1 with **DB5** buffer; select 1:A on Dilution tab |
| Custom Corn 1 | DF MG39 | | | | | | | 1:12 in water (100 µL sample plus 1100 µL water) followed by 1:1 with **DB5** buffer; select 1:A on Dilution tab |
| Corn Fermented Protein | DF MG26 | Add 10 g sample, *then* 50 mL 1X **EB18** Shake immediately for 10 seconds | 1 minute at the highest speed on shaker table, or 2 minutes vigorously by hand | Centrifuge 1 min. @ 2000 x g | 100 µL **DB6** buffer + 100 µL clarified extract | | 5 min | n/a |

Notes: * Use distilled, deionized, or flat (non-carbonated) bottled water. # Follow the protocol outlined under 'Range with Dilution'

^ 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).

For **MG25**, TotalTox CGM Common Extraction, follow instructions included with ACC-114, TotalTox EB17/EB18 Extraction Set

**Table A: Summary Guide for Approved Matrices** (cont.)

| Matrices | Matrix Group | Add Grain to Vessel First, then Water* | Fully wet sample, then mix | Clarify | Add to the reaction tube and mix | Add tube to Incubator set at 22°C | Add strip for | For testing >8ppm, dilute extract# |
|---|---|---|---|---|---|---|---|---|
| TotalTox Corn Gluten Meal Common Extraction | DF MG25 | 1. 25g sample<br>2. EB17 pouch<br>3. 50 mL 1X EB18 Extraction Buffer<br>*Immediately shake vigorously for 10 seconds by hand* | 1 minute at the highest speed on shaker table, or 2 minutes vigorously by hand | *Immediately* centrifuge for 1 min @ 2000 X *g* | 100 µL **DB6** buffer + 100 µL clarified extract | Acclimate tube for 2 min^ | 5 min | n/a |

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

# Follow the protocol outlined under 'Range with Dilution'

^ 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).

For **MG25**, TotalTox CGM Common Extraction, follow instructions included with ACC-114, TotalTox EB17/EB18 Extraction Set