# SAFETY DATA SHEET

## Cat# BN00739 Transglutaminase Inhibitor Screening Assay Kit

### SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** **Transglutaminase Inhibitor Screening Assay Kit**

**PRODUCT CODES:** **Cat. # BN00739**

**MANUFACTURER:** **Assay Genie (brand of Reagent Genie Ltd.)**

**ADDRESS:** **G1 The Steelworks, Foley Street, Dublin 1**

**EMERGENCY PHONE:** **+353 1 8879802**

### SECTION 2: HAZARDS IDENTIFICATION

| Component | Description | Volume | Safety Information |
|---|---|---|---|
| TG Assay Buffer | Proprietary Buffer(contains MES) | 15 ml | See below |
| 1 M DTT | contains DTT | 110 µl | See below |
| Donor Substrate (lyophilized) | -- | 1 bottle | No hazards |
| Acceptor Substrate (lyophilized) | contains hydroxylamine | 1 vial | See below |
| Stop Solution | Liquid (contains Trichloroacetic acid, ferric chloride) | 8 ml | See below |
| Transglutaminase-2 Enzyme (lyophilized) | -- | 1 vial | No hazards |
| Inhibitor Cystamine (lyophilized) | -- | 1 vial | No hazards |

**MES:**

**Emergency Overview**

**OSHA Hazards:** Irritant

**Target Organs:** skin, eyes

**GHS Classification:** Skin irritation (Category 2)
Eye irritation (Category 2A)

**GHS Label elements, including precautionary statements**

**Pictogram:**

**Signal word:** Warning

**Hazard statement(s):** H315: Causes skin irritation
H319: Causes serious eye irritation
H335: May cause respiratory irritation

**Precautionary statement(s):** P264 Wash skin thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/ eye protection/ face protection.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

**HMIS Classification**

- **Health hazard**: 2
- **Chronic Health Hazard**: *
- **Flammability**: 0
- **Physical hazards**: 0

**NFPA Rating**

- **Health hazard**: 2
- **Fire**: 0
- **Reactivity Hazard**: 0

**Potential Health Effects**

- **Inhalation:** May be harmful if inhaled. Causes respiratory tract irritation.
- **Skin:** Causes skin irritation.
- **Eyes:** Causes eye irritation.

**Hydroxylamine:**

**Emergency Overview:** Corrosive to metals (Category 1), H290
Acute toxicity, Oral (Category 4), H302
Acute toxicity, Dermal (Category 4), H312
Skin irritation (Category 2), H315
Eye irritation (Category 2A), H319
Skin sensitisation (Category 1), H317
Carcinogenicity (Category 2), H351
Specific target organ toxicity - repeated exposure (Category 2), H373
Acute aquatic toxicity (Category 1), H400
Chronic aquatic toxicity (Category 1), H41

**OSHA Hazards:** Target organ effect, Harmful by ingestion, Irritant

**Target Organs:** skin, eyes, lungs

**GHS Classification:** Acute toxicity, Oral (Category 4)
Skin irritation (Category 2)
Eye irritation (Category 2A)

**GHS Label elements, including precautionary statements**

**Pictogram:**

**Signal word:** Warning

**Hazard statement(s):** H290 May be corrosive to metals.
H302 + H312 Harmful if swallowed or in contact with skin
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H351 Suspected of causing cancer.
H373 May cause damage to organs through prolonged or repeated exposure.
H410 Very toxic to aquatic life with long lasting effects.

**Precautionary statement(s):** P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P234 Keep only in original container.
P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P272 Contaminated work clothing should not be allowed out of the workplace.
P273 Avoid release to the environment.
P280 Wear eye protection/ face protection.
P280 Wear protective gloves/ protective clothing.
P281 Use personal protective equipment as required.
P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell. Rinse mouth.
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P302 + P352 + P312 IF ON SKIN: Wash with plenty of soap and water. Call a POISON CENTER or doctor/ physician if you feel unwell.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P337 + P313 If eye irritation persists: Get medical advice/ attention.
P362 Take off contaminated clothing and wash before reuse.
P390 Absorb spillage to prevent material damage.
P391 Collect spillage.
P405 Store locked up.
P406 Store in corrosive resistant stainless steel container with a resistant inner liner.
P501 Dispose of contents/ container to an approved waste disposal plant.

**HMIS Classification**
- **Health hazard**:3
- **Chronic Health Hazard**: *
- **Flammability**: 0
- **Physical hazards**: 1

**NFPA Rating**
- **Health hazard**: 3
- **Fire**: 0
- **Reactivity Hazard**: 1

**Potential Health Effects**
- **Inhalation:** May be harmful if inhaled. Causes respiratory tract irritation.

**Skin:** May be harmful if absorbed through skin. Causes skin irritation.
**Eyes:** Causes eye irritation.
**Ingestion:** Harmful if swallowed.

**DTT:**

**Emergency Overview**
**OSHA Hazards:** Target organ effect, Harmful by ingestion, Irritant
**Target Organs:** Central nervous system
**GHS Classification:** Acute toxicity, Oral (Category 4)
Skin irritation (Category 2)
Eye irritation (Category 2A)
**GHS Label elements, including precautionary statements**

**Pictogram:**
**Signal word:** Warning
**Hazard statement(s):** H302: Harmful if swallowed
H315: Causes skin irritation
H319: Causes serious eye irritation
H335: May cause respiratory irritation
**Precautionary statement(s):** P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
**HMIS Classification**
**Health hazard**: 2
**Chronic Health Hazard**: *
**Flammability**: 0
**Physical hazards**: 0
**NFPA Rating**
**Health hazard**: 2
**Fire**: 0
**Reactivity Hazard**: 0
**Potential Health Effects**
**Inhalation:** May be harmful if inhaled. Causes respiratory tract irritation.
**Skin:** May be harmful if absorbed through skin. Causes skin irritation.
**Eyes:** Causes eye irritation.
**Ingestion:** Harmful if swallowed.

**Trichloroacetic acid:**

**Emergency Overview**
**OSHA Hazards:** Target organ effect, Corrosive, Carcinogen
**Target Organs:** Central nervous system
**Other hazards which do not result in classification:** Vesicant
**GHS Classification:** Acute toxicity, Oral (Category 5)
Skin corrosion (Category 1A)
Serious eye damage (Category 1)
Acute aquatic toxicity (Category 1)
Chronic aquatic toxicity (Category 1)
**GHS Label elements, including precautionary statements**

**Pictogram:**
**Signal word:** Danger
**Hazard statement(s):** H303 May be harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H410 Very toxic to aquatic life with long lasting effects.
**Precautionary statement(s):** P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER or doctor/physician.
**HMIS Classification**
**Health hazard**: 3
**Chronic health hazard**: *
**Flammability**: 1
**Physical hazards**: 0

**NFPA Rating**

**Health Hazard:** 3
**Fire**: 1
**Reactivity Hazard**: 0

**Potential Health Effects**

**Inhalation:** May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.
**Skin:** May be harmful if absorbed through skin. Causes skin burns.
**Eyes:** Causes eye burns. Causes severe eye burns.
**Ingestion:** May be harmful if swallowed.

**Ferric Chloride:**

**Emergency Overview**

**OSHA Hazards:** Target organ effect, Corrosive
**Target Organs:** Eyes, skin
**Other hazards which do not result in classification:**
**GHS Classification:** Acute toxicity, Oral (Category 4)
Skin corrosion (Category 2)
Serious eye damage (Category 1)
Acute aquatic toxicity (Category 2)
Chronic aquatic toxicity (Category 3)

**GHS Label elements, including precautionary statements**
**Pictogram:**

**Signal word:** Danger
**Hazard statement(s):** H290: May be corrosive to metals
H303 May be harmful if swallowed.
H315 Causes skin irritation
H318 Causes serious eye damage
H411 Toxic to aquatic life with long lasting effects.
**Precautionary statement(s):** P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER or doctor/physician.

**HMIS Classification**

**Health hazard**: 3
**Chronic health hazard**: *
**Flammability**: 0
**Physical hazards**: 0

**NFPA Rating**

**Health Hazard:** 3
**Fire**: 0
**Reactivity Hazard**: 0

**Potential Health Effects**

**Inhalation:** May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.
**Skin:** May be harmful if absorbed through skin. Causes skin burns.
**Eyes:** Causes eye burns. Causes severe eye burns.
**Ingestion:** May be harmful if swallowed.

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

| Component | CAS Number | EC-No. | Molecular Weight | Chemical Formula |
|---|---|---|---|---|
| MES | 145224-94-8 | 224-632-3 | 213.25 | C6H13NO4S |
| DTT | 3483-12-3 | 222-468-7 | 154.25 | C4H10O2S2 |
| Hydroxylamine HCl | 5470-11-1 | 226-798-2 | 69.49 | H3NO·HCl |
| Trichloroacetic acid | 76-03-9 | 200-927-2 | 163.39 | $C_2HCl_3O_2$ |
| Ferric Chloride | 7705-08-0 | 231-729-4 | 162.20 | Cl3Fe |

## SECTION 4: FIRST AID MEASURES

**General advice:** Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.
**If inhaled:** If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
**In case of skin contact:** Wash off with soap and plenty of water. Consult a physician.

**In case of eye contact:** Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
**If swallowed:** DO NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

### 5: FIRE-FIGHTING MEASURES

**Suitable extinguishing media:** For small (incipient) fires, use media such as "alcohol" foam, dry chemical, or carbon dioxide. For large fires, apply water from as far as possible. Use very large quantities (flooding) of water applied as a mist or spray; solid streams of water may be ineffective. Cool all affected containers with flooding quantities of water.
**Special protective equipment for firefighters:** Wear self-contained breathing apparatus for firefighting if necessary.
**Hazardous combustion products:** Hazardous decomposition products formed under fire conditions –see section 10.
**Further information:** Use water spray to cool unopened containers.

### SECTION 6: ACCIDENTAL RELEASE MEASURES

**Personal precautions:** Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.
**Environmental precautions:** Prevent further leakage or spillage if safe to do so. Do not let product enter drains.
**Methods for cleaning up:** Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

### SECTION 7: HANDLING AND STORAGE

**Precautions for safe handling**
Avoid contact with skin and eyes. Avoid inhalation of vapor or mist. Flash back possible over considerable distance. Container explosion may occur under fire conditions. Use explosion-proof equipment. Keep away from sources of ignition – no smoking. Take measures to prevent the build up of electrostatic charge.
**Conditions for safe storage**
Keep container tightly closed in a dry and well-ventilated place.
Recommended storage temperature: -20 °C.

### SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Trichloroacetic acid

| Components | CAS-No. | Value | Control parameters | Basis |
|---|---|---|---|---|
| Trichloroacetic acid | 76-03-9 | TWA | 1 ppm | USA. ACGIH Threshold Limit Values (TLV) |
| Remarks: | Eye & upper respiratory tract irritation. Confirmed animal carcinogen with unknown relevance to humans. | | | |
| | | TWA | 1 ppm<br>7 mg/m$^3$ | USA. OSHA – Table Z-1 Limits for Air Contaminants – 1910.1000 |
| | | TWA | 1 ppm<br>7 mg/m$^3$ | USA. NIOSH recommended exposure limits |

Ferric Chloride

| Components | CAS-No. | Value | Control parameters | Basis |
|---|---|---|---|---|
| Iron trichloride | 7705-08-0 | TWA | 1 mg/m3 | USA. ACGIH Threshold Limit Values (TLV) |
| Remarks: | Upper respiratory tract irritation; SKin irritation varies | | | |
| | | TWA | 1mg/m$^3$ | USA. NIOSH recommended exposure limits |

**Personal protective equipment**
**Respiratory protection**
Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).
**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.
**Eye protection**
Face shield and safety glasses. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).
**Skin and body protection**
Complete suit protecting against chemicals. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
**Hygiene measures**

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

| Property | MES | DTT |
|---|---|---|
| **Appearance:** | White powder | White powder |
| **pH:** | 2.5-4 at 97.6 g/l | 4-6 at 15.4 g/l |
| **Water Solubility:** | 97.6g/L | 15.4 g/l |
| **Other Solubility:** | No data available | No data available |
| **Boiling Point (°C):** | No data available | No data available |
| **Melting Point (°C):** | 300 °C (572 °F) | 41-44 °C (106-111 °F) |
| **Flash Point (°C):** | No data available | 113 °C (235 °F) |
| **Ignition Temperature (°C):** | No data available | No data available |
| **Density:** | No data available | No data available |

| Property | Hydroxylamine | Trichloroacetic acid | FeCl3 |
|---|---|---|---|
| **Appearance:** | white powder | liquid | liquid |
| **pH:** | 2.5-3.5 at 50 g/L | 1 at 81.7 g/l at 25 °C (77 °F) | No data available |
| **Water Solubility:** | No data available | Completely soluble | No data available |
| **Other Solubility:** | No data available | No data available | No data available |
| **Boiling Point (°C):** | No data available | No data available | No data available |
| **Melting Point (°C):** | 155-157 °C (311-315 °F) | No data available | No data available |
| **Flash Point (°C):** | No data available | No data available | No data available |
| **Ignition Temperature (°C):** | No data available | No data available | No data available |
| **Density:** | 1.67 g/ml | No data available | No data available |

## SECTION 10: STABILITY AND REACTIVITY

| Property | MES | DTT | Hydroxylamine |
|---|---|---|---|
| **Chemical stability:** | Stable under recommended storage conditions | | |
| **Conditions to avoid:** | No data available | No data available | No data available |
| **Materials to avoid:** | Strong oxidizing agents | Bases, oxidizing agents, reducing agents, alkali metals | Strong oxidizing agents, phosphorous pentachloride, Calcium, Anhydrous copper(II) sulfate |
| **Hazardous decomposition products:** | No data available | Carbon oxides, sulfur oxides, hydrogen sulfide gas | No data available |

| Property | Trichloroacetic acid | FeCl3 |
|---|---|---|
| **Chemical stability:** | Stable under recommended storage conditions | |
| **Conditions to avoid:** | exposure to moisture | No data available |
| **Materials to avoid:** | Strong oxidizing agents, strong bases, amines | Bases, Alkali metals, Strong oxidizing agents, Potassium, Exothermic in contact with water, Forms shock-sensitive mixtures with certain other materials |
| **Hazardous decomposition products:** | Carbon oxides, hydrogen chloride gas | Carbon oxides, sulfur oxides, hydrogen sulfide gas |

## SECTION 11: TOXICOLOGICAL INFORMATION

**MES, FeCl3:**

**Acute toxicity:** no data available
**Skin corrosion/irritation:** no data available
**Serious eye damage/eye irritation:** no data available
**Respiratory or skin sensitization:** no data available
**Germ cell mutagenicity:** no data available
**Carcinogenicity:**

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**Reproductive toxicity:** no data available
**Teratogenicity:** no data available
**Specific target organ toxicity – single exposure (GHS):** Inhalation – may cause respiratory irritation.
**Specific target organ toxicity – repeated exposure (GHS):** no data available
**Potential Health Effects**
**Inhalation:** May be harmful if inhaled. Causes respiratory tract irritation.
**Skin:** Causes skin irritation.
**Eyes:** Causes eye irritation.
**Ingestion: May be h**armful if swallowed.

**DTT:**
**Acute toxicity:** LD50 Oral – rat – 400 mg/kg
**Skin corrosion/irritation:** no data available
**Serious eye damage/eye irritation:** no data available
**Respiratory or skin sensitization:** no data available
**Germ cell mutagenicity:** no data available
**Carcinogenicity:**

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**Reproductive toxicity:** no data available
**Teratogenicity:** no data available
**Specific target organ toxicity – single exposure (GHS):** Inhalation – may cause respiratory irritation.
**Specific target organ toxicity – repeated exposure (GHS):** no data available
**Potential Health Effects**
**Inhalation:** May be harmful if inhaled. Causes respiratory tract irritation.
**Skin:** May be harmful if absorbed through skin. Causes skin irritation.
**Eyes:** Causes eye irritation.
**Ingestion:** Harmful if swallowed.
**Signs and Symptoms of Exposure:** Exposure may cause central nervous system depression. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.
**Synergistic effects:** no data available
**Additional information:** RTECS: not available

**Hydroxylamine:**
**Acute toxicity:** LD50 Oral - rat - 600 mg/kg
LC50 Inhalation - rat no data available
LD50 Dermal - rabbit no data available
**Skin corrosion/irritation:** no data available
**Serious eye damage/eye irritation:** no data available
**Respiratory/skin sensitization:** no data available
**Germ cell mutagenicity:** Genotoxicity rat -embryo-morphological transformation
Genotoxicity in vivo - hamster – lungs -- sister chromatid exchange
**Carcinogenicity:** Suspected human carcinogen

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**Reproductive toxicity:** Reproductive toxicity – no data available.
**Teratogenicity:** NO data available
Aspiration hazard: No data available

**Additional Information:** RTECS: NC3675000

**Trichloroacetic acid:**
**Acute toxicity:** LD50 Oral – rat – 3,320 mg/kg
**Skin corrosion/irritation:** no data available
**Serious eye damage/eye irritation:** Eyes – rabbit – severe eye irritation – 5 s
**Respiratory or skin sensitization:** no data available
**Germ cell mutagenicity:** no data available
**Carcinogenicity:**

| | |
|---|---|
| IARC: | 3 – Group 3: Not classifiable as to its carcinogenicity to humans (Trichloroacetic acid) |
| ACGIH: | No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH. |
| NTP: | No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP. |
| OSHA: | No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA. |

**Reproductive toxicity:** no data available
**Teratogenicity:** no data available
**Specific target organ toxicity – single exposure (GHS):** no data available
**Specific target organ toxicity – repeated exposure (GHS):** no data available
**Potential Health Effects**
**Inhalation:** May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.
**Skin:** May be harmful if absorbed through skin. Causes skin burns.
**Eyes:** Causes eye burns. Causes severe eye burns.
**Ingestion:** May be harmful if swallowed.
**Signs and Symptoms of Exposure:** Exposure may cause burning sensation, cough, wheezing, laryngitis, shortness of breath, spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema. Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin.
**Additional information:** RTECS: AJ7875000

## SECTION 12: ECOLOGICAL INFORMATION

**DTT:**
**Persistence and degradability:** no data available
**Toxicity:** Toxicity to daphnia and other aquatic invertebrates: LC50 – Daphnia magna (Water flea) – 27 mg/l – 48 h
**Bioaccumulative potential:** no data available
**Mobility in soil:** no data available
**PBT and vPvB assessment:** no data available
**Other adverse effects:** no data available

**Hydroxylamine:**
**Persistence and degradability:** no data available
**Toxicity:** Toxicity to fish: LC50 --Leuciscus idus (Golden orfe) - 1 - 10 mg/L - 48.0 h
**Bioaccumulative potential:** no data available
**Mobility in soil:** no data available
**PBT and vPvB assessment:** no data available
**Other adverse effects:** Very toxic to aquatic life with long lasting effects

**Trichloroacetic acid:**
**Persistence and degradability:** Biodegradability (Zahn-Wellens Test) Result: 5% - not readily biodegradable
**Toxicity:** Toxicity to fish LC50 – Pimephales promelas (fathead minnow) – 2,000 mg/l – 96 h
Toxicity to daphnia and other aquatic invertebrates EC50 – Daphnia magna (Water flea) – 1,460-2,000 mg/l – 48 h
**Bioaccumulative potential:** no data available
**Mobility in soil:** no data available
**PBT and vPvB assessment:** no data available
**Other adverse effects:** An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Very toxic to aquatic life with long lasting effects.

## SECTION 13: DISPOSAL CONSIDERATIONS

**Product:** Observe all federal, state, and local environmental regulations.
**Contaminated packaging:** Dispose of as unused product.

## SECTION 14: TRANSPORT INFORMATION

**DTT:**

**DOT (US):** Not dangerous goods.
**IMDG:** Not dangerous goods.
**IATA:** Not dangerous goods.

**Hydroxylamine:**
**DOT (US):** UN-Number: 2923, Class: 8 (6.1), Packing group: III;
Proper shipping name: Corrosive solids, toxic, n.o.s. (Hydroxylamine hydrochloride)
Reportable quantity (RQ):
Poison Inhalation Hazard: No
**IMDG:** UN number: 2923 Class: 8 (6.1) Packing group: III EMS-No: F-A, S-B
Proper shipping name: CORROSIVE SOLID, TOXIC, N.O.S. (Hydroxylamine hydrochloride)
Marine pollutant:yes
**IATA:** UN number: 2923 Class: 8 (6.1) Packing group: III
Proper shipping name: Corrosive solid, toxic, n.o.s. (Hydroxylamine hydrochloride)
**Trichloroacetic acid:**
**DOT (US):** UN-number: 1839, Class: 8, Packing group: II
Proper shipping name: Trichloroacetic acid
Marine pollutant: No; Poison inhalation hazard: No
**IMDG:** UN-number: 1839, Class: 8, Packing group: II; EMS-No: F-A, S-B
Proper shipping name: TRICHLOROACETIC ACID
Marine pollutant: No
**IATA:** UN-number: 1839, Class: 8, Packing group: II
Proper shipping name: Trichloroacetic acid

**Ferric Chloride:**
DOT (US):UN number: 2582 Class: 8 Packing group: III
Proper shipping name: Ferric chloride, solution
Reportable Quantity (RQ): 2000 lbs
Poison Inhalation Hazard: No
IMDG: UN number: 2582 Class: 8 Packing group: III EMS-No: F-A, S-B
Proper shipping name: FERRIC CHLORIDE SOLUTION
Marine pollutant: yes
IATA: UN number: 2582 Class: 8 Packing group: III
Proper shipping name: Ferric chloride solution

## SECTION 15: REGULATORY INFORMATION

**OSHA Hazards:** DTT: Target organ effect, Harmful by ingestion, Irritant
hydroxylamine: Corrosive to metals, Target organ effect, harmful by ingestion, irritant
Trichloroacetic acid: Target organ effect, Corrosive, Carcinogen
**SARA 302 Components:** SARA 302: No chemical in this material are subject to the reporting requirements of SARA Title III, Section 302.
**SARA 313 Components:** SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title II, Section 313.
**SARA 311/312 Hazards:** DTT, hydroxylamine, Trichloroacetic acid: Acute Health Hazard, Chronic Health Hazard
**Massachusetts Right To Know Components:** Trichloroacetic acid: CAS-No. 76-03-9; Revision Date: 2007-03-1
Iron trichloride: CAS-No. 7705-08-0 Revision Date 1993-04-24
**Pennsylvania Right To Know Components:** DTT, CAS-No. 3483-12-3
hydroxylamine hydrochloride CAS-No. 5470-11-1
Trichloroacetic acid: CAS-No. 76-03-9; Revision Date: 2007-03-1
Iron trichloride: CAS-No. 7705-08-0 Revision Date 1993-04-24
**New Jersey Right To Know Components:** DTT, CAS-No. 3483-12-3
hydroxylamine hydrochloride CAS-No. 5470-11-1
Trichloroacetic acid: CAS-No. 76-03-9; Revision Date: 2007-03-1
Iron trichloride: CAS-No. 7705-08-0 Revision Date 1993-04-24
**California Prop. 65 Components:** This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

**EU regulations**

| Component | Risk Phrases | Safety Phrases |
|---|---|---|
| DTT | R22, R36/37/38 | S26, S36 |
| Hydroxylamine | R22;R36/38;R43;R48/22;R50; | S22;S24;S37;S61 |
| Trichloroacetic acid | R35, R50/53 | S26, S36/37/39, S45, S60, S61 |
| Ferric Chloride | R22, R38, R41 | S26, S39 |

## SECTION 16: OTHER INFORMATION

# SAFETY DATA SHEET

## Cat# BN00739 Transglutaminase Inhibitor Screening Assay Kit

**DISCLAIMER:**

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Assay Genie shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.