



SAFETY DATA SHEET

Section 1: Identification

Product Identifier: Transglutaminases (TG) Activity Colorimetric Assay Kit (#MAES0470)

Relevant Identified Uses of Substance or Mixture and Uses Advised Against:

Recommended Use: For Research Use Only

Uses Advised against: No information

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Section 2: Hazard(s) Identification

2.1 GHS Classification

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 GHS Label elements, including precautionary statements

2.2.1 Classification of the substance or mixture

Not a hazardous substance or mixture according to Regulation (EC) No 1272/2008.

2.2.2 Label Elements

Not a hazardous substance or mixture according to Regulation (EC) No 1272/2008.

2.3 Other hazards-none

Section 3: Composition/ Information on Ingredients

Items	Component	Physical form	Hazardous Ingredient	Concentration	CAS No.
Reagent 1	Buffer Solution	Odorless and colorless, liquid	No hazards	-	-
Reagent 2	Substrate A	Odorless and white, powder	No hazards	-	-
Reagent 3	Substrate B	Odorless and colorless, liquid	No hazards	-	-
Reagent 4	Chromogenic Agent A	Odorless and colorless, liquid	Hydrochloric acid	0.04%	7647-01-0
Reagent 5	Stop Solution	Odorless and colorless,	No hazards	-	-

		liquid			
Reagent 6	Chromogenic Agent B	Odorless and yellow, liquid	No hazards	-	-
Reagent 7	Standard	Odorless and white, powder	No hazards	-	-

Section 4: First-Aid Measures

- Classification according to GHS

4.1 General advice

- Consult a physician. Show this safety data sheet to the doctor in attendance.

4.2 If inhaled

- If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

4.3 In case of skin contact

- Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Consult a physician.

4.4 In case of eye contact

- Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

4.5 If swallowed

- Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

Section 5: Fire-Fighting Measures

5.1 Suitable extinguishing media

- **Suitable:** Water spray, alcohol-resistant foam, dry chemical, carbon dioxide or appropriate foam.
- For small fires, use media such as "alcohol" foam, dry chemical or carbon dioxide.
- For large fires, apply water from as far as possible. Use large quantities of water applied as a mist or spray. Solid streams
- of water may be ineffective. Cool affected containers with flooding quantities of water.

5.2 Special precautions for fire-fighters

- **Protective Equipment:** Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and
- eyes.

5.3 Special hazards arising from the substance or mixture

- Carbon oxides, Nitrogen oxides (NOx), Sulphur oxides, Hydrogen chloride gas.

Section 6: Accidental Release Measures

6.1 Person-related safety 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.

6.2 Measures for environmental protection

- Prevent further leakage or spillage if safe to do so. Do not let enter drains. Discharge into

the environment must be

- avoided.

6.3 Measures for containment and cleaning

- Contain spillage, and then collect with non-combustible absorbent material (eg. sand, diatomaceous earth, vermiculite).
- Place in a container for disposal according to local regulations. Pick up and arrange disposal without creating dust. Sweep
- up and shovel. Keep in suitable, closed containers for disposal. Sweep up and shovel. Contain spillage, and then collect
- with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local
- regulations (see section 13). Keep in suitable, closed containers for disposal.

Section 7: Handling and Storage

7.1 Handling

- Wear appropriate protective clothing and safety gloves.
- Avoid inhalation.
- Avoid contact with eyes, skin and clothing.
- Mechanical exhaust required.
- Keep away from ignition sources, heat and flame.
- No smoking at working site.
- **Incompatibilities:** Strong oxidizing agents, Strong acids. Handling and unloading should be light, to prevent packaging broken,
- damp and cause losses.
- Working place should be equipped with appropriate varieties and quantities of fire fighting equipment and leakage
- emergency treatment equipment.

7.2 Storage

- Store in cool place. Keep container tightly closed in a dry and well-ventilated place.
- Keep away from heat, sparks and flame.
- Keep away from sources of ignition.
- **Incompatible:** Strong oxidizing agents, Strong acids.
- Storage place should be equipped with appropriate varieties and quantities of fire fighting equipment and leakage
- emergency treatment equipment.

Section 8: Exposure Controls/Personal Protection

8.1 Engineering Controls

- Mechanical exhaust required. Safety shower and eye bath.

8.2 Personal Protective Equipment

- **Respiratory:** Government approved respirator if needed.
- **Eye/face:** Chemical safety goggles if needed.
- **Clothing:** Wear appropriate protective clothing.
- **Hand/skin:** Protective 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.
- **Body protection:** Wear suitable protective clothing according to the concentration and amount of the substance at the
- workplace.

8.3 Other Protect

- No smoking, drinking and eating at working site. Wash thoroughly after handling.

Section 9: Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

- a) Physical state liquid
- b) Color colorless
- c) Odor odorless
- **d) Melting point/freezing point:** No data available
- **e) Initial boiling point and boiling range:** No data available
- **f) Flammability (solid,gas):** No data available
- **g) Upper/lower flammability or explosive limits:** No data available
- h) Flash point No data available
- **i) Autoignition temperature:** No data available
- **j) Decomposition temperature:** No data available
- k) pH < 1 at 20 °C
- **l) Viscosity Viscosity, kinematic:** No data available Viscosity, dynamic: No data available
- m) Water solubility at 20 °C soluble
- **n) Partition coefficient:** n-octanol/water No data available
- **o) Vapor pressure :** No data available
- **p) Density :** 1.02 g/cm³ at 20 °C Relative density : No data available
- **q) Relative vapor density:** No data available
- **r) Particle characteristics:** No data available
- **s) Explosive properties:** Not classified as explosive.
- **t) Oxidizing properties:** none

Section 10: Stability and Reactivity

10.1 Reactivity

- No data available

10.2 Chemical stability

- Stable under recommended storage conditions

10.3 Possibility of hazardous reactions

- No data available

10.4 Conditions to avoid

- Heat, flames and sparks

10.5 Incompatible materials

- Strong oxidizing agent, Light sensitive, Alcohols, Organic materials, Heavy metals, Powdered metals, Strong reducing
- agents, Amines, Mercaptans.

10.6 Hazardous decomposition products

- **Other decomposition products:** No data available
- **Hazardous decomposition products formed under fire conditions:** Carbon oxides, Nitrogen oxides (NOx), Sulphur oxides,
- Hydrogen chloride gas.

Section 11: Toxicological Information

11.1 Information on toxicological effects

- **Mixture Acute toxicity Oral:** No data available
- **Inhalation:** No data available
- **Dermal:** No data available
- Skin corrosion/irritation
- **Remarks:** Possible damages: slight irritation
- Serious eye damage/eye irritation
- **Remarks:** Possible damages:
- slight irritation
- **Respiratory or skin sensitization:** No data available
- **Germ cell mutagenicity:** No data available
- **Carcinogenicity:** No data available
- **Reproductive toxicity:** No data available
- Specific target organ toxicity-single exposure
- The substance or mixture is not classified as specific target organ toxicant, single exposure.
- Specific target organ toxicity-repeated exposure
- The substance or mixture is not classified as specific target organ toxicant, repeated exposure.
- Aspiration hazard
- Based on available data the classification criteria are not met.

11.2 Additional Information

- irritant effects
- However, when the product is handled appropriately, hazardous effects are unlikely to occur.
- Handle in accordance with good industrial hygiene and safety practice.
- Components
- Hydrochloric Acid
- Acute toxicity
- **Symptoms:** If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the esophagus and the
- stomach.
- **Inhalation:** Cough Difficulty in breathing
- **Symptoms:** mucosal irritations, Cough, Shortness of breath, Inhalation may lead to the formation of oedemas in the
- **respiratory tract., Possible damages:** , damage of respiratory tract, tissue damage
- **Dermal:** No data available
- Skin corrosion/irritation
- Skin-reconstructed human epidermis (RhE)
- **Result:** Corrosive

- (OECD Test Guideline 431)
- Serious eye damage/eye irritation
- Eyes-Bovine cornea
- **Result:** Causes serious eye damage.-10 min
- (OECD Test Guideline 437)
- Respiratory or skin sensitization
- Maximization Test-Guinea pig
- **Result:** negative
- (OECD Test Guideline 406)
- Germ cell mutagenicity
- **Test Type:** Chromosome aberration test in vitro
- **Test system:** Chinese hamster ovary cells
- **Result:** Positive results were obtained in some in vitro tests.
- **Remarks:** (ECHA)
- **Test Type:** mitotic recombination assay
- **Test system:** Saccharomyces cerevisiae
- **Result:** negative
- **Remarks:** (ECHA)
- **Test Type:** Ames test
- **Test system:** mouse lymphoma cells
- **Result:** positive
- **Remarks:** (ECHA)
- Carcinogenicity
- No data available
- Reproductive toxicity
- No data available
- Specific target organ toxicity-single exposure
- May cause respiratory irritation.-Respiratory system
- Acute oral toxicity-If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the esophagus
- and the stomach.
- Acute inhalation toxicity-mucosal irritations, Cough, Shortness of breath, Inhalation may lead to the formation of oedemas in
- **the respiratory tract., Possible damages:** , damage of respiratory tract, tissue damage
- Specific target organ toxicity-repeated exposure
- The substance or mixture is not classified as specific target organ toxicant, repeated exposure.
- Aspiration hazard
- No aspiration toxicity classification

Section 12: Ecological Information

12.1 Toxicity

- **Mixture:** No data available

12.2 Persistence and degradability: No data available

12.3 Bioaccumulative potential: No data available

12.4 Mobility in soil: No data available

12.5 Results of PBT and vPvB assessment: PBT/vPvB assessment not available as chemical safety assessment

- not required/not conducted

12.6 Endocrine disrupting properties: No data available

12.7 Other adverse effects: Discharge into the environment must be avoided.

- Components Hydrochloric Acid
- Toxicity to fish LC50-Gambusia affinis (Mosquito fish)-282 mg/l-96 h
- **Remarks:** (IUCLID)

Section 13: Disposal Considerations

13.1 Disposal methods

- Dispose of waste in accordance to applicable national, regional, or local regulations. Burn in a chemical incinerator
- equipped with an afterburner and scrubber b highly flammable. Offer surplus and non-recyclable solutions to a licensed
- disposal company. Contact a licensed professional waste disposal service to dispose of this material.

13.2 Contaminated packaging

- Dispose in the same manner as unused product.

Section 14: Transport Information

- **RID/ADR:** Non-Hazardous for Transport: This substance is considered to be non-hazardous for transport.
- **IATA:** Non-Hazardous for Air Transport.
- **IMO:** Non-Hazardous for Sea Transport.

Section 15: Regulatory Information

This material safety data sheet complies with the requirements of Regulation (EC) No. 1272/2008 and its amendments.

Section 16: Other Information

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Last reviewed: 07/2026

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