

**MATERIAL SAFETY DATA SHEET**  
**TECO<sup>®</sup> Hyaluronic Acid ELISA Kit**

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Doc. No. TE1018-2

Date: 15/07/2013

**Section 1 - Product and Company Identification****1.1 Manufacturer Information**

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**1.2 Product Information**Product Name: TECO<sup>®</sup> Hyaluronic Acid ELISA-Kit (Catalog #: TE1018-2)*\*\*For research use only\*\***\*\*For professional use only\*\**Intended Use: TECO<sup>®</sup> Hyaluronic Acid ELISA-Kit is a 96 well, enzyme immunoassay for the quantitative determination of hyaluronic acid in plasma and serum.

Components: Microtiter Plate, Sample Diluent, HA Binding Protein-HRP Conjugate, TMB Substrate, Concentrated Wash Buffer, Stop Solution, Standards A → F, Controls 1 and 2, adhesive cover for microtiter plate

**Section 2 – Hazards Identification****2.1 Classification of mixture**

The hazards associated with this product are related to the Stop Solution that contains a 1M hydrochloric acid (3.3%) solution. All other components of the TECO<sup>®</sup> Hyaluronic Acid ELISA-Kit are not considered hazardous in accordance with Directive 1999/45/EC.

**2.2 Label elements**

This product does not require a hazard warning label according to EC directives.

**2.3 Other Hazards**

No single component of the kit contains a hazardous ingredient in a concentration which qualifies the whole kit as hazardous according to Directive 1999/45/EC. However, ingestion or exposure to large amounts from improper handling can be potentially hazardous.

This kit contains animal proteins and animal sera and should be treated as a potential biohazard. All animal sera have been tested to ensure the absence of infectious agents but all materials should be handled as though capable of transmitting infectious disease and disposed of accordingly.

The following safety phrases should be taken into consideration:

S20/21, S24/25, S26, S27, S28, S29/35, S36/37, S45 (see section 16 for full text)

**Section 3 – Composition / Information on Ingredients****3.1 Substances**

Not applicable

**3.2 Mixtures**

The hazards identified with this product are those associated with the following component(s)

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Kit Component	Ingredient(s)	Concentration
Standards A → F	5-Bromo-5-nitro-1,3-dioxane (BND)	0.06% w/v
Controls 1 and 2	BND	0.06% w/v
Concentrated Wash Buffer 50x	BND	0.06% w/v
Sample Diluent	BND	0.06% w/v
TMB Substrate	3,3',5,5'-tetramethylbenzidine (TMB, non-carcinogenic analog of benzidine)	<0.1% w/v
Stop Solution – 1 M HCl	Hydrogen chloride	3.3% w/v

Ingredient	CAS No.	EC No.	Classification DSD/DPD	Classification GHS/CLP
BND	30007-47-7	250-001-7	R22, R38	Acute toxicity, Oral (Category 4) Skin irritation (Category 2) H302, H315
TMB	54827-17-7	259-364-6	Xi, R36, R37, R38	N/A
Hydrochloric acid	7647-01-0	231-595-7	Corrosive (C); Xi R34, R37	Skin Corr. 1B, Met. Corr. 1 STOT SE 3 H290, H314, H335

The full text for the R- and H-phrases can be found in section 16.

## Section 4 – First Aid Measures

### 4.1 Description of first aid measures

#### After skin contact

Wash off skin thoroughly with water for at least 15 minutes. Remove contaminated clothing. In severe cases or if skin is broken, OBTAIN MEDICAL ATTENTION.

#### After eye contact

In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers, OBTAIN MEDICAL ATTENTION.

#### After Inhalation

Remove from exposure, rest and keep warm. If breathing becomes difficult, OBTAIN MEDICAL ATTENTION.

#### After Ingestion

If patient is conscious, wash out mouth with water and give plenty of water to drink. Do not induce vomiting. OBTAIN MEDICAL ATTENTION.

### 4.2 Most important symptoms and effects, both acute and delayed

Not available.

### 4.3 Indication of any immediate medical attention and special treatment needed

Not available.

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**Section 5 – Fire Fighting Measures****5.1 Suitable extinguishing media**

Use carbon dioxide, dry chemical powder or appropriate foam.

**5.2 Special hazards arising from the substance or mixture**

Emits toxic fumes under fire conditions

**5.3 Advice for fire-fighters**

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

**Section 6 – Accidental Release Measures****6.1 Personal precautions**

Wear appropriate personal protective equipment, including but not limited to protective clothing, safety glasses and protective gloves.

**6.2 Environmental precautions**

Prevent further leakage or spillage if safe to do so. Prevent any reagents from entering drains.

**6.3 Methods and material for containment and cleaning up**

Wipe up liquid spills with absorbent paper. For solid spills, sweep up without raising dust. Once pick up is complete. Wash site with detergent and water.

Decontaminate with a suitable disinfectant solution.

**6.4 Reference to other sections**

See sections 8 and 13.

**Section 7 – Handling and Storage****7.1 Precautions for safe handling**

Material of human origin, if included in the kit, has been tested and found non-reactive for HIV 1 and 2 and HCV antibodies and HBsAg. All animal sourced material has been obtained from animals certified as healthy and free from disease. However all potentially biohazardous components should be considered as potentially infectious. Level II containment should be applied.

Do not eat, drink or smoke in the laboratory. Do not pipette by mouth. Avoid inhalation. Avoid skin and eye contact. Wear appropriate protective clothing as described in subsection 8.2. Avoid the use of needles or other sharp implements. Avoid prolonged or repeated exposure. Wash thoroughly after handling. Avoid release into drains; in case of accidental spillage, refer to section 6.

**7.2 Conditions for safe storage, including any incompatibilities**

Keep containers tightly closed. Store in a dry place in the box supplied at a temperature between +2 and +8°C.

**7.3 Specific end use(s)**

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The TECO<sup>®</sup> Hyaluronic Acid ELISA-Kit is intended for professional use only and to be used solely for the purpose as specified in subsection 1.2. Refer to kit instructions for details.

## Section 8 – Exposure Controls and Personal Protection

### 8.1 Control parameters

No occupational exposure limits exist for any kit components. However, the following limits apply to component ingredients: Hydrochloride acid (see subsection 3.2 for components containing these substances):

Control Parameters	Value	Basis
<b>Hydrochloride acid</b>		
TWA	3.0 mg/m <sup>3</sup> 8.0 mg/m <sup>3</sup>	Germany: Arbeitsplatzgrenzwert (AGW) Europe: Commission Directive 2009/161/EU
TWA	7.0 mg/m <sup>3</sup> 7.5 mg/m <sup>3</sup>	USA: NIOSH Recommended Exposure Limits (REL) USA: ACGIH Threshold Limit Values (TLV)

### 8.2 Exposure controls

The following controls should be followed as appropriate to the situation and the quantities handled.

#### General protective measures

Avoid contact with skin or eyes. Wash hands after use.

#### Hygiene measures

General laboratory practice (see section 7).

#### Respiratory protection

Local exhaust.

#### Eye/face protection

Chemical safety glasses or goggles conforming to appropriate government standards such as EN166 (EU) or NIOSH (US).

#### Skin and body protection

Chemical resistant gloves to be used in accordance with standard EN374 derived from EU Directive 89/686/EEC. Latex or vinyl gloves will provide sufficient protection. Inspect gloves for damage prior to use and change if any sign of degradation.

#### Other equipment

Eye bath and safety shower

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**Section 9 – Physical and Chemical Properties**
**9.1 Information on the basic physical and chemical properties**

Kit component	Appearance	Odor	pH	Solubility in Water
Microtiter Plate	Colorless polystyrene microplate	None	N/A	Not soluble
Sample Diluent	red liquid	None	~8.2	soluble
HA Binding Protein-HRP Conjugate	Amber orange liquid	None	~6.1	soluble
TMB Substrate	Colorless to slight blue liquid	None	~3.7	soluble
Concentrated Wash Buffer	Colorless liquid	None	~7.1	soluble
Stop Solution (1M HCl)	Colorless liquid	None	<1.0	soluble
Standards and Controls	Colorless to pale yellow	None	~7.4	soluble

There is no information available for the following categories: odor threshold, melting/freezing point, initial boiling point/boiling range, flash point, evaporation rate, flammability (solid, gas), upper/lower flammability or explosive limits, vapor pressure, vapor density, relative density, partition coefficient, auto ignition temperature decomposition temperature, viscosity, explosive properties or oxidizing properties.

**9.2 Other information**

All liquid components are miscible with water in all proportions.

**Section 10 – Stability and Reactivity**
**10.1 Reactivity**

Data is not available on the reactivity of individual kit components but is given, where available, on substances listed in subsection 3.2.

Hydrochloric acid has a corrosive effect. There is no data available on the other substances.

**10.2 Chemical stability**

All components of the TECO<sup>®</sup> Hyaluronic Acid ELISA-Kit have been found stable for stated shelf life when stored under the recommended conditions.

**10.3 Possibility of hazardous reactions**

No hazardous reactions known for kit components although, hazardous reactions occur for the following substances listed in subsection 3.2:

Ingredient	Hazardous Reaction
Hydrochloric	Violent reactions possible with acetonitrile, organic nitro compounds, potassium permanganate, metal

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acid	halogenates, perchlorates and alkali metals. Contact with metals liberates toxic gas.
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**10.4 Conditions to avoid**

Peroxidase substrate (TMB) is light sensitive and therefore the bottle should be kept tightly closed when not in use and stored in a dark place.

Proteins and hydrochloric acid are heat sensitive and storage or use at the improper temperature may compromise the integrity of the kit.

**10.5 Incompatible materials**

No data is known for kit components but the following data is known for components listed in subsection 3.2:

Ingredient	Incompatible materials
Hydrochloric Acid	Reacts with acetonitrile, organic nitro compounds, potassium permanganate, metal halogenates, perchlorates and alkali metals. Other incompatible materials include animal and vegetable tissues.

**10.6 Hazardous decomposition products**

No decomposition products are formed if kit is stored and used under the specified storage and handling conditions.

May evolve toxic fumes in fire. Thermal decomposition products are not known for the kit components but hazardous combustion products of the ingredients listed in subsection 3.2 can be found in subsection 5.2.

**Section 11 – Toxicological Information**

**11.1 Information on toxicological effects**

**Stop Solution**

**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: 3 - Group 3: Not classifiable as to its carcinogenicity to humans (Hydrochloric acid)

**Reproductive toxicity**

no data available

**Specific target organ toxicity - single exposure**

no data available

**Specific target organ toxicity - repeated exposure**

no data available

**Aspiration hazard**

no data available

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**11.2 Route of exposure/potential health effects**

<b>Inhalation</b>	May be harmful if inhaled. Causes respiratory tract irritation.
<b>Ingestion</b>	May be harmful if swallowed.
<b>Skin</b>	May be harmful if absorbed through skin. Causes skin irritation.
<b>Eyes</b>	Causes eye burns.

**Section 12 – Ecological Information****12.1 Toxicity**

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**

No data available.

**12.6 Other adverse effects**

No ecological information exists for kit components. The concentrations of ingredients listed in subsection 3.2 are below the acceptable limit for hazardous substances except for hydrochloric acid; the ecological risk is minimal. However, it is recommended that reagents do not enter drains in large quantities.

**Section 13 – Disposal Considerations****13.1 Waste treatment methods**

Waste residues: human origin wastes must be disposed of in conformity with existing local regulations

Soiled packaging: Dispose of in accordance with existing regulations. Contaminated containers must be treated the same way as the respective chemicals. Waste material packaging code (2001/118/EC): 15 01 10 (packaging containing of or contaminated by dangerous substances).

**Section 14 – Transportation Information**

This product is not covered by international regulation on the transport of dangerous goods (IMDG, IATA, ADR/RID).

Transport of this product can be carried out at ambient temperature but in the event of delays store at 2 – 8oC with all reagents contained within the packaging provided.

**14.1 UN number**

Not applicable.

**14.2 UN proper shipping name**

Not applicable.

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**14.3 Transport hazard class(es)**

Not applicable.

**14.4 Packing group**

Not applicable.

**14.5 Environmental hazards**

Not applicable.

**14.6 Special precautions for user**

See sections 6 to 8.

**14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code**

Not applicable.

**Section 15 – Regulatory Information**

Not hazardous according to Directive 67/548/EEC.

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture.**

None known.

**15.2 Chemical safety assessment**

Not applicable.

**Section 16 – Other Information**

This MSDS has been compiled in accordance with Commission Regulation (EU) No. 453/2010.

**Full text of R-phrases and S-phrases (listed in subsection 2.3 and 3.2) according to European Directive 67/548/EEC as amended:**

Hazard code: Xi = irritant

R20: Harmful by inhalation.

R22: Harmful if swallowed

R34: Causes burns

R36: Irritating to eyes

R37: Irritating to respiratory system

R38: Irritating to skin

S20/21: When using do not eat, drink or smoke.

S24/25: Avoid contact with skin and eyes.

S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S27: Take off immediately all contaminated clothing

S28: After contact with skin, wash immediately with plenty of water



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S29/35: Do not empty into drains; dispose of this material and its container in a safe way

S33: Take precautionary measures against static discharges

S36/37: Wear suitable protective clothing and gloves.

S45: In case of accident or if you feel unwell, seek medical advice immediately

H290: May be corrosive to metals

H302: Harmful if swallowed.

H314: Causes severe skin burns and eye damage

H315: Causes skin irritation

H335: May cause respiratory irritation

STOT SE: Specific target organ toxicity – single exposure

The above information is believed to be correct but does not purport to be all-inclusive and is provided for guidance only. 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. TECOmedical AG shall not be held liable for any damage or injury resulting from handling or from contact with the above product and assumes no responsibility to the accuracy or completeness of the data contained herein. It is the responsibility of the purchaser to ensure that laboratory workers who use this product are aware of its hazards and take all necessary precautions to prevent contact, ingestion, inhalation or any other mode of exposure.

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