MATERIAL SAFETY DATA SHEET

Prepared by Reagent & Diagnostics Department

Tokiwa Chemical Industries CO., Ltd.

Supersensitive Bisphenol A ELISA kit (96 wells)

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Supersensitive Bisphenol A ELISA kit (Microplate)

Manufacturer: Tokiwa Chemical Industries CO., Ltd.
Address: kami-ikebukuro 4-16-22, Toshima-ku, Tokyo, 170-0012, Japan
Phone No.: +81-3-3940-7768
Fax No.: +81-3-3940-7689
E-mail: eco@tokiwa-chemical.com
Recommended Use: Research use only

2. HAZARDS IDENTIFICATION

This product is composed of seven components, [1] to [7]. See SECTION 3.
[1],[3],[4],[5],[6] These components do not meet the criteria for classification in any hazard class according to Globally Harmonized System of Classification and Labeling of Chemicals (GHS; United Nations: ST/SG/AC. 10.30/Rev.3) nor Regulation (EC) No 1272/2008.

2.1 Classification according to GHS

2.1.1 Component [2]; BPA standard; Methanol(ca.8%) in water with or without a trace amount of BPA

CLASSIFICATION: Flammable liquids: Category 3
Toxic to reproduction: Category 1B
Specific target organ systemic toxicity Single exposure: Category 2 <central nervous system><visual organ><whole body toxicity>
Specific target organ systemic toxicity Repeated exposure: Category 2 <central nervous system><visual organ>

LABEL ELEMENTS
Hazard pictograms 
Signal word **DANGER**

HAZARD STATEMENTS: H226: Flammable liquid and vapour
H360: May damage fertility or the unborn child
H371: May causes damage to organs <central nervous system><visual organ> <whole body toxicity>
H373: May causes damage to organs through prolonged or repeated exposure <central nervous system><visual organ>

PRECAUTIONARY STATEMENTS: P202: Do not handle until all safety precautions have been read and understood.
P210: Keep away from flames and hot surfaces.-No smoking.
P280: Wear protective gloves/eye protection/face protection.
P270: Do not eat, drink or smoke when using this product.
P260: Do not breathe vapours/spray.

2.1.2 Component [7]; Stop solution; Citric acid(ca.33%) in water

CLASSIFICATION: Skin corrosion/irritation: Category 1
Serious eye damage/eye irritation: Category 1

LABEL ELEMENTS
Hazard pictograms 

Signal word **DANGER**

HAZARD STATEMENTS: H314: Causes severe skin burns and eye damage
H318: Causes serious eye damage

PRECAUTIONARY STATEMENTS: 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.

2.2 Classification according to Regulation (EC) No 1272/2008[CLP].

2.2.1 Component [2]; BPA standard; Methanol(ca.8%) in water with or without a trace amount of BPA

CLASSIFICATION: Methanol with a water content of more than 90% by mass is not classified as a flammable liquid in the regulation.
Acute Tox.4 H302
STOT SE 2 H371

LABEL ELEMENTS

Hazard pictograms 

Signal word **Warning**

HAZARD STATEMENTS: H302: Harmful if swallowed
H371: May cause damage to organs <central nervous system><visual organ> <whole body toxicity>

PRECAUTIONARY STATEMENTS: P270: Do not eat, drink or smoke when using this product.
P260: Do not breathe vapours/spray.
P301+312: IF SWALLOWED: Call a POISON CENTRE/doctor.

2.2.2 Component [7] ; Stop solution; Citric acid(33%) in water

CLASSIFICATION : Skin Irrit. 1 H314: Causes severe skin burns and eye damage
Eye Dam 1 H318: Causes serious eye damage

LABEL ELEMENTS

Hazard pictograms 

Signal word **Danger**

HAZARD STATEMENTS: H314: Causes severe skin burns and eye damage
H318: Causes serious eye damage

PRECAUTIONARY STATEMENTS: 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.

2.3 Classification according to Directive 1999/45/EC

2.3.1 Component [2] ; BPA standard; Methanol(ca.8%) in water with or without trace amount of BPA

CLASSIFICATION : Methanol with a water content of more than 90% by mass need not be classified as a flammable liquid in the regulation.
Xn: Harmful 

Risk Phrases R20/21/22: Harmful by inhalation, in contact with skin and if swallowed.
R68/20/21/22: Harmful: possible risk of irreversible effects through inhalation, in contact with skin and if swallowed.

2.3.2 Component [7] ; Stop solution; Citric acid(ca.33%) in water

Do not meet the criteria as hazardous.

3. COMPOSITION/INFORMATION ON INGREDIENTS

LABEL/Ingredient	CAS Number	Content (%)	Content (/Vial)
[1]MoAb*-Coated Microplate (1 Plate;96wells/Kit)			
Monoclonal antibodies against BPA	N/A**		
[2] BPA Standard (1.5 mL/Vial × 5 Vials/Kit)			
Water	7732-18-5	ca.92%	ca.1.38mL
<1> Methanol (10%(v/v))	67-56-1	ca.8%	ca.0.12g
BPA(Bisphenol A) (0, 0.05, 0.3, 1, 10μg/L)	80-05-7	<0.000001%	<15ng
[3]Antigen-enzyme Conjugate Powder (2 Vials/Kit)			
Antigen conjugate to HRP(Horseradish peroxidase)	-	<0.1%	
Stabilizer	-	99-99.9%	
[4]Buffer Solution (7 mL/Vial×2/Kit)			
Water	7732-18-5	ca.98%	-
Sodium Phospahte (buffer)	-	0.3%	21mg
Sodium chloride	7647-14-5	0.8%	56mg
Stabilizer	-	ca.1%	ca.70mg
[5] Wash Solution (6-fold concentration) (50 mL/Vial/Kit)			
Water	7732-18-5	ca.94%	-
Sodium phosphate (buffer)	-	1.8%	0.9g
Sodium chloride	-	4.8%	2.4g
Surfactant/Stabilizer	-	ca.0.3%	ca.0.15g
[6] Color Solution (15 mL/Vial/Kit)			
Water	7732-18-5	ca.98%	-
pH stabilizer	-	<0.5%	
Chromogen (3,3',5,5'-Tetramethylbenzidine)	54827-17-7	<0.05%	
Substrate	-	<0.01%	
Stabilizer	-	ca.1%	
[7] Stop Solution (15 mL/Vial/Kit)			
Water	7732-18-5	ca.67%	-
<2> Citric acid	77-92-9	ca.33%	ca.6.3 g

*MoAb: monoclonal antibody, * N/A: not applicable

	SYNONYMS	FORMULA	Mw
<1>	Methyl alcohol	CH_3OH	32.04
<2>	2-hydroxy-1,2,3-propanetricarbonicacid	$C_6H_8O_7$	192.12

	EINECS No.	ENCS #	TSCA	EC INDEX NUMBER
<1>	200-659-6	2-201	listed	603-001-00-X
<2>	201-069-1	2-1318	listed	-

4. FIRST AID MEASURES

GENERAL ADVICE: regarding [2] and [7]

Wash off immediately with soap and plenty of water. In the case of respirable dust and/or fumes, use self-contained breathing apparatus and dust impervious protective suit. Use personal protective equipment.

INHALATION: regarding [2] and [7]

Move victim to fresh air. If breathing is difficult, give oxygen. If irritation persists, consult a physician.

SKIN CONTACT: regarding [2] and [7]

Remove contaminated clothes and shoes, rinse skin with plenty of water or shower. Use soap to help assure

removal. If irritation persists, consult a physician.

EYE CONTACT: regarding [2] and [7]

Remove any contact lenses at once. Flush eyes well with flooding amounts of running water for several minutes. Assure adequate flushing by separating the eyelids with sterile fingers. If irritation persists, consult a physician.

INGESTION: regarding [2] and [7]

Rinse mouth, give plenty of water to dilute the substance. Never give anything by mouth to an unconscious person. Consult a physician.

5. FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA: Carbon dioxide, dry chemical powder, foam, water

FIRE AND EXPLOSION HAZARDS:

[1],[3],[4],[5],[6],[7]: Toxic, irritating fumes or smoke may be emitted. [2]: Flammable liquid (GHS), hazardous toxic and irritating fumes or smoke may be emitted. (A water miscible solution with a water content of more than 90% by mass and with a flash point of more than 35°C do not sustain combustion, need not be considered as a flammable liquid. ; UN Recommendation on the Transport of Dangerous Goods Part 3, 2.3.1.3)

SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS:

Firemen should wear normal protective equipment (full bunker gear) and positive-pressure self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS:

Remove ignition sources and ventilate area. In case of insufficient ventilation, wear suitable respiratory equipment. Avoid contact with skin and eyes.

ENVIRONMENTAL PRECAUTIONS: Prevent spills from entering sewers, watercourses or low areas.

METHODS FOR CLEAN UP:

Do not touch spilled material without suitable protection (See section 8). Take up spilled material with ashes or other absorbents. After material is completely picked up, wash the spill site with soap and water and ventilate the area. Put all wastes in a plastic bag for disposal and seal it tightly. Remove, clean, or dispose of contaminated clothing. Drains should be well flushed with large amount of water when discarding the reagents.

7. HANDLING AND STORAGE

HANDLING:

Avoid contact with eyes, skin and clothing. Avoid prolonged or repeated exposure. Handle material with suitable protection away from source of heat or ignition and use non-sparking type tools.

STORAGE:

Store away from sunlight in a cool (2- 8°C = 35.6- 46.4°F) well-ventilated dry place. Keep container tightly closed. See also the indication described on label for handling.

INCOMPATIBLE PRODUCTS: Water-reactive materials (alkali metals etc.), strong oxidizers, acids, heavy metals.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING MEASURES:

Use exhaust ventilation to keep airborne concentrations below exposure limits. Use only with adequate ventilation.

VENTILATION:

Local Exhaust; Necessary, Mechanical (General) ; Necessary, Special ; Closed system is recommended.

CONTROL PARAMETER: <1> : Not available as the mixture.

As methanol

	Limit value – Eight hours		Limit value – Short term	
Country	ppm	mg/m^3	ppm	mg/m^3
Japan	200	260		
European Union	200	260		
Germany	200	270	800	1080
USA – NIOSH	200	260	250	325
USA – OSHA	200	260		

PERSONAL PROTECTION:

Respiratory protection; NIOSH/MSHA approved respirator / Hand protection; Chemical resistant gloves
Eye protection; Safety glasses (goggles) / Skin protection; Protective clothing

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:

[1]; 96 well microplate [2]; Colorless clear liquid in brown bottle

[3]; White mass in clear bottle [4]; Colorless clear liquid
[5]; Colorless clear liquid [6]; Colorless to pale blue liquid in brown bottle
[7]; Colorless clear liquid

ODOR: [2],[6]: Characteristic odor, [1],[3],[4],[5],[7]: Odorless
pH: [2],[4],[5]: pH 6 - 8, [6]: pH 4 - 5, [7]: pH <2, [1],[3]: Not applicable
INITIAL BOILING POINT: [2]: ca.93℃, [4],[5],[6]: ca.100℃, [1]: Not applicable, [7] Not available
MELTING POINT: [2]: ca.-4.6℃, [3],[4],[5],[6],[7]: Not available, [1]: Not applicable
FLASH POINT: [2]: 54℃, [3],[4],[5],[6],[7]: Not available, [1]: Not applicable
FLAMMABILITY: [2]: Flammable (GHS); Not classified as a flammable liquid by the regulation (EC) 1272/2008 and by UN Recommendation on the Transport of Dangerous Goods Part III 2.3.1.3(c).
[4],[5],[6],[7]: Not flammable , [1],[3]: Not applicable
EXPLOSIVE LIMITS: [2],[3],[4],[5],[6],[7]: Not available, [1]: Not applicable
VAPOR PRESSURE: [2],[3],[4],[5],[6],[7]: Not available, [1]: Not applicable
SPECIFIC GRAVITY: [2]: ca.0.99, [3]: Not available, [4],[5],[6]: ca.1 , [7]: 1.28, [1]: Not applicable
SOLUBILITY IN WATER: [2],[4],[5],[6],[7]: Miscible , [3]: Soluble, [1]: Not applicable
PARTITION COEFFICIENT: [2],[3],[4],[5],[6],[7]: Not available, [1]: Not applicable
AUTO-IGNITION TEMPERATURE: [2],[3],[4],[5],[6],[7]: Not available, [1]: Not applicable
DECOMPOSITION TEMPERATURE: [2],[3],[4],[5],[6],[7]: Not available, [1]: Not applicable

10. STABILITY AND REACTIVITY

CHEMICAL STABILITY:
Stable under recommended storage conditions.
CONDITION TO AVOID:
Sunlight, heat, high temperature, sparks, static electrical charges, other ignition sources.
INCOMPATIBILITY (MATERIAL TO AVOID):
Water-reactive materials (alkali metals etc.), strong oxidizers, acids, heavy metals.
HAZARDOUS DECOMPOSITION PRODUCTS:
Carbon monoxide, nitrogen oxides, phosphor oxides and sodium compounds may be formed.
HAZARDOUS POLYMERIZATION: will not occur

11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY: as methanol <1>, as citric acid <2>; Not available as the mixture.
<1> LD_{50} (oral, rat):5628 mg/kg (GTPZAP 19(11)27, 1975)
LC_{50} (inhalation, rat):64000ppm/4H (NPIRI 1.74, 1974)
TDL_0 (oral, man):9450μL/kg (AJEMEN 16, 538, 1998)
TCL_0 (inhalation, human): 300ppm (NPIRI 1.74, 1974)
<2> LD_{50} (oral, rat) 3 g/kg, (RTECS)
LD_{50} (ipr, rat) 290mg/kg, (RTECS)
LD_{50} (scu, rat) 5500mg/kg (RTECS)
LD_{50} (oral, mouse) 5040mg/kg (RTECS)
SKIN CORROSION/IRRITATION: as methanol <1>, as citric acid <2>; Not available as the mixture.
<1> Skin (rabbit) 20mg/24H (moderate) (85JCAE -, 187, 1968)
<2> Skin (rabbit) 500mg/24H (mild) (RETCS)
EYE DAMAGE/ EYE IRRITATION: as methanol <1>, as citric acid <2>; Not available as the mixture.
<1> Eye (rabbit) 100mg/24H (moderate) (85JCAE -, 187, 1968)
<2> Eye (rabbit) 750μg/24hr (severe) (RTECS)
MUTATION: as methanol <1>, as citric acid <2>; Not available as the mixture.
<1> DNA repair (E. coli) 20mg/well, DNA inhibitor (human, lymphocyte) 300mmol/L, DNA damage (rat, oral) 10μmol/kg, Cytogenic analysis (mouse, oral) 1g/kg, Cytogenic analysis (mouse, ip) 75mg/kg
<2> Not available
REPRODUCTIVE EFFECTS: as methanol <1> ; Not available as the mixture.
<1> TDL_0 (rat, oral, 17-19D preg) 7500mg/kg, TDL_0 (rat, oral, 1-15D preg) 35295mg/kg, 71,1991), TDL_0 (rat, oral, 6-15D preg) 20g/kg, TCL_0 (rat, inhalation, 7H, 1-22D preg) 20000ppm, TDL_0 (rat, inhalation, 7H, 7-15D preg) 20000ppm
<2> Not available
STOST – SINGLE EXPOSURE: as methanol <1> ; Not available as the mixture
<1> The restraint of central nervous system and damages of the visual organ, human, oral or inhalation.(EHC 196.1997; ACGIH, 7th, 2001; DFGOT vol.16, 2001)

The respiratory tract irritation, rat, (EHC 196, 1997; PATTY 4th 1994),
Anesthesia, rat, mouse and rhesus monkey (EHC 196,1997; PATTY 4th 1994)

<2> Not available

STOST – REPEATED EXPOSURE: as methanol <1> ; Not available as the mixture

<1> Restraint of central nervous system and damages of the visual organ, human, oral or inhalation. (EHC 196.1997; ACGIH, 7th, 2001; DFGOT vol.16, 2001)

TUMORIGENIC DATA:

<1>, <2>: Not available

12. ECOLOGICAL INFORMATION

BIODEGRADABILITY, *BIOACUMULATION POTENTIAL*:

<1> Biodegradable

<2> 77% by BOD, 100% by TOC

AQUATIC TOXICITY: as methanol <1> ; Not available as the mixture

<1> TLm (96hr) >1000ppm (Goldfish)

<2> Not available

OTHER DATA: <1>, <2> Not available

13. DISPOSAL CONSIDERATION

Take up the material with combustible absorbents and burn in small portion in a chemical incinerator equipped with an afterburner and scrubber in accordance with all applicable regulations. Any disposal practice must be in compliance with country, local, state, and federal laws and regulations (contact country, local or state environmental agency for specific rules).

14. TRANSPORT INFORMATION

IATA: Not Restricted

Methanol solutions with a water content of more than 90% by mass need not be considered as flammable liquids. ; IATA Dangerous Goods Regulations 3.3.1.3(c) , UN Recommendation on the Transport of Dangerous Goods Part III 2.3.1.3(c)

15. REGULATORY INFORMATION

US REGULATIONS;

<1> as methanol

CAA: HAP, VOC, CWA: Hazardous substance, FIFRA : PAI, PII, RCRA: LDR, SARA: TRI, CERCLA RQ=5,000lbs./ 2270kg, DOT: CGBHM, DOT :[UN1230］[Flammable liquid, Poison], FDA: PAFA

16. OTHER INFORMATION

The above information is believed to be correct to be the best of our knowledge and information but does not purport to be all inclusive and shall be used only as a guide. This product is intended to be used by expert persons having chemical knowledge and skill at their own discretion and risk and Tokiwa shall not be held liable for any damage resulting from handling or from contact with the above material.

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