



Manufactured By: U-CyTech Biosciences

Material safety data sheet

ELISA kit

1. Identification of the product (substance or mixture) and supplier/company

Product identifiers

Product: ELISA kit
Catalogue no.: Please see section 16 for the exact products for which this MSDS applies.
Brand: U-CyTech biosciences

Relevant identified uses of the product and uses advised against

Identified uses: Laboratory reagent. To be used in ELISA system.
For R&D use only, not for food, drug, household or other uses.

Details of the supplier of the material safety data sheet

Supplier: U-CyTech biosciences
Yalelaan 48
3584 CM Utrecht
The Netherlands
Phone: +31 30 253 5960
E-mail: info@ucytech.com

2. Hazard identification

Classification of the products in this kit

Except for TMB substrate tablets, the items in this kit are not classified as hazardous according to Regulation (EC) no. 1272/2008 and to Directives 67/548/EC and 1999/45/EC and their amendments.

TMB substrate tablets are classified as

According to Regulation (EC) no. 1272/2008: Eye irritation (Category 2).

According to Directive 67/548/EC and its amendments: Irritating to eyes.

Label elements TMB substrate tablets

Pictogram:



Signal word: Warning

Hazard statement: H319: Causes serious eye irritation.

Precaution statements: P305 + P351 + P338:

IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.

Hazard symbol: Xi: Irritant

Risk phrase: R36: Irritating to eyes.

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

Other hazards - none

3. Composition/information on ingredients

Product name: ELISA kit

Ingredients:

Cas no.	EC no.	Index no.	Classification	Concentration
Coating antibodies (lyophilized)				
-	-	-	-	-
Standards (lyophilized)				
-	-	-	-	-
Biotinylated detector antibodies (lyophilized)				
-	-	-	-	-
SPP conjugate (lyophilized)				
-	-	-	-	-
TMB substrate tablets (C ₁₆ H ₂₀ N ₂)				
-	-	-	Eye Irrit. 2; H319 ----- Xi; R36	-
Substrate buffer capsules				
-	-	-	-	-
BSA stock solution (10%)				
-	-	-	-	-
Cytokine Stabilization Buffer				
-	-	-	-	-
Tween-20 (C ₅₈ H ₁₁₄ O ₂₆)				
-	-	-	-	-

For specific ingredients of all items in this kit and the full text of the Hazard statements and Risk phrases mentioned in this section, see section 16 of this material safety data sheet (MSDS).

4. First aid measures

Description of first aid measures

- General advice: Consult physician. Show this MSDS to the doctor in attendance.
- After contact with skin: Wash contaminated area with soap and water. Remove contaminated clothing and shoes. Consult a physician.
- After swallowing: Do NOT induce vomiting (when swallowing TMB substrate tablets). In general, if the person is conscious, wash out mouth with water. Consult a physician.
- After contact with eyes: Rinse thoroughly with plenty of water for at least 15 minutes. Assure adequate flushing by separating the eyelids. Consult a physician.
- After inhalation: Provide fresh air. If breathing becomes difficult, consult a physician.

Most important symptoms and effects, both acute and delayed

To the best of our knowledge, the chemical, physical and toxicological properties have not been thoroughly investigated.

Indication of any immediate medical attention and special treatment needed

No data available.

5. Fire-fighting measures

- Extinguishing media: Water spray, carbon dioxide, dry chemical powder or alcohol-resistant foam.
- Special hazards /risks: Except for Tween-20 there is no data available.
- Tween-20:
Vapors heavier than air.
Forms explosive mixtures with air on intense heating.
Development of hazardous combustion gases or vapors possible in the event of fire. In case of fire carbon oxides may develop.
- Advice for fire fighters: Wear self-contained breathing apparatus and protective clothing for fire fighting if necessary.

6. Accidental release measures

- Personal precautions: Use personal protective equipment to avoid exposure. Avoid formation of dust and aerosols. Avoid breathing dust, vapors, mist or gas. Ensure adequate ventilation. Follow general safety rules for laboratories. Evacuate personnel to safe areas in case of an emergency.

Environmental precautions: Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

Clean-up methods: Pick up and arrange disposal without creating dust. Sweep up and keep in suitable, closed containers for disposal (section 13).

7. Handling and storage

Safe handling: Only for laboratory use. Use personal protective equipment to avoid (prolonged or repeated) exposure. Avoid formation of dust and aerosols. Ensure adequate ventilation. Follow general safety rules for laboratories.

Safe storage: Store all items except SPP conjugate, Substrate buffer capsules and Tween-20 at 2-8°C in a dry and well-ventilated place. Keep containers tightly closed.

Store SPP conjugate at -20°C in a dry and well-ventilated place. Keep container tightly closed.

Store Substrate buffer capsules and Tween-20 in a cool, dry and well-ventilated place. Keep containers tightly closed.

8. Exposure controls/personal protection

Contains no substances with occupational exposure limit values.

Appropriate engineering controls and hygiene measures

Facilities storing or utilizing this product should be equipped with an eyewash facility, a safety shower and mechanical exhaust. Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of the workday.

Personal protective equipment

The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

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

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

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

The selected safety glasses have to have side-shields conforming to EN166. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU).

Skin and body protection

The selected clothing has to be impervious.

9. Physical and chemical properties

Coating antibodies, standards, biotinylated detector antibodies and SPP conjugate:

Physical state and appearance:	solid (lyophilized)	Color:	white
Odor:	no data available	pH (at 20° C):	no data available
Melting/freezing point:	no data available	Boiling/condensation point:	no data available
Flash point:	no data available	Auto ignition temperature:	no data available
Flammability limits:	no data available	Specific gravity:	no data available
Solubility:	soluble in water		

TMB substrate tablets:

Physical state and appearance:	solid (powder)	Color and form:	white tablet
Odor:	no data available	pH (at 20° C):	no data available
Melting point:	168-171° C - lit.	Boiling/condensation point:	no data available
Flash point:	no data available	Auto ignition temperature:	no data available
Flammability limits:	no data available	Specific gravity:	no data available
Solubility:	soluble in dimethyl sulfoxide (DMSO); not soluble in water		

Substrate buffer capsules:

Physical state and appearance:	solid (powder)	Color and form:	white capsule
Odor:	no data available	pH (at 20° C):	no data available
Melting/freezing point:	no data available	Boiling/condensation point:	no data available
Flash point:	no data available	Auto ignition temperature:	no data available
Flammability limits:	no data available	Specific gravity:	no data available
Solubility:	soluble in water		

BSA stock solution (10%) and Cytokine Stabilization Buffer:

Physical state and appearance:	liquid	Color and form:	transparent, light yellow
Odor:	no data available	pH (at 20° C):	no data available
Melting/freezing point:	no data available	Boiling/condensation point:	no data available
Flash point:	no data available	Auto ignition temperature:	no data available
Flammability limits:	no data available	Specific gravity:	no data available
Solubility:	product is an aqueous solution		

Tween-20:

Physical state and appearance:	liquid to viscous	Color:	yellowish
Odor:	no data available	pH (at 20°C):	7
Melting/freezing point:	no data available	Boiling/condensation point:	100°C
Flash point:	> 110°C - closed up	Auto ignition temperature:	no data available
Flammability limits:	no data available	Density (at 25°C):	1.95 g/ml
Solubility:	soluble in water	Vapor pressure	< 1.33 hPa

10. Stability and reactivity

Chemical stability: Stable under recommended storage conditions.

Conditions to avoid: No data available.

Materials to avoid: Bases, oxidizing agents, strong oxidizing agents, strong acids, reducing agents, heavy metal salts, strong reducing agents.

Hazardous reactions/decomposition products: No data available for all items except for Tween-20 were hazardous decomposition products are formed under fire conditions: carbon oxides.

11. Toxicological information

Acute toxicity: Tween-20: LD₅₀ (oral, rat): 40.554 mg/kg.

Other items: no data available.

Irritation and corrosion (skin and eyes): TMB substrate tablets: irritating to eyes.

Tween-20: mild skin irritation (human, 3 d)

Other items: no data available.

Sensitization (skin and respiratory): No data available.

Germ cell mutagenicity: No data available.

Carcinogenicity: TMB substrate tablets: IARC: 3 - Group 3: Not classifiable as to its carcinogenicity to human (1-Ethenyl-2-pyrrolidinone homopolymer).

Substrate buffer capsules and Tween-20: 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.

Other items: no data available.

Reproductive toxicity: No data available.

Specific target organ toxicity (single and repeated): No data available.

Aspiration hazard: No data available.

Signs and symptoms of exposure:

To the best of our knowledge, the chemical, physical and toxicological properties have not been thoroughly investigated.

Potential health effects:

TMB substrate tablets:

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.

Ingestion: May be harmful if swallowed. Causes burns.

Other items:

Inhalation: May be harmful if inhaled and may cause respiratory tract irritation.

Skin: May be harmful if absorbed through skin and may cause skin irritation.

Eyes: May cause eye irritation.

Ingestion: May be harmful if swallowed.

Further hazardous properties cannot be excluded. The product should be handled with the care usual when dealing with chemicals.

Additional information:

RTECS: Tween-20: TR7400000 - Others items: not available.

12. Ecological information

Toxicity: Tween-20: LC₅₀ (fish, 24h): 350 mg/l.

Other items: no data available.

Persistence and degradability: No data available.

Bio accumulative potential: No data available.

Mobility in soil: No data available.

Results of PBT and vPvB assessment: No data available.

Other adverse effects: TMB substrate tablets: harmful to aquatic life.

Other items: no data available.

13. Disposal considerations

Product: The generation of waste should be avoided or minimized wherever possible.

Dissolve or mix with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Observe all federal, state and local environmental regulations.

Packaging: Dispose of as unused product.

14. Transport information

This product is not dangerous for road (ARD), rail (RID), inland waterways (ADNR), sea (IMDG) and air (ICAO/IATA) transport. UN number is not available.

15. Regulatory information

Coating antibodies, standards, biotinylated detector antibodies, SPP conjugate, Substrate buffer capsules, BSA stock solution (10%), Cytokine Stabilization Buffer and Tween-20 are not classified as dangerous according to EU legislation.

TMB substrate buffer is classified as irritant to eyes according to EU legislation.

16. Other information

Specific ingredients of the items of this kit

- Lyophilized coating antibodies, standards, biotinylated detector antibodies and SPP conjugate (when reconstituted):

Cas no.	EC no.	Index no.	Classification	Concentration
Proteins (antibodies, cytokines or Streptavidin-peroxidase polymer respectively)				
-	-	-	-	< 1%
Serum albumin (<i>this ingredient is not in coating antibody present</i>)				
9048-46-8	232-936-2	-	-	1%
Trehalose, dihydrate (C ₁₂ H ₂₂ O ₁₁ • 2H ₂ O)				
6138-23-4	202-739-6	-	-	< 5%

- TMB substrate tablets (synonym: 3,3',5,5'-Tetramethylbenzidine substrate tablets) (when reconstituted):

Cas no.	EC no.	Index no.	Classification	Concentration
Adipic acid				
124-04-9	200-673-3	607-144-00-9	Eye Irrit. 2; H319 Xi; R36	66.67%
3,3',5,5'-Tetramethylbenzidine				
54827-17-7	259-364-6	-	Skin Irrit. 2, Eye Irrit. 2; STOT SE; H315, H319, H335 Xi; R36/37/38	6.67%
1-Ethenyl-2-pyrrolidinone homopolymer				
9003-39-8	-	-	-	26.27%

- Substrate buffer capsules (synonym: Phosphate-citrate buffer with sodium perborate capsules) (when reconstituted):

Cas no.	EC no.	Index no.	Classification	Concentration
Trisodium citrate				
68-04-2	200-675-3	-	-	≤ 50%
Disodium hydrogenorthophosphate				
7558-794	231-448-7	-	-	≤ 50%
Sodium peroxmetaborate				
10332-33-9	231-556-4	-	Ox. Sol.3; Repr. 1B; Acute Tox. 3; Acute Tox. 4; STOT SE 3; Eye Dam. 1; Ox.Sol. 3; Acute Tox. 4; Eye Dam. 1; H272, H302, H318, H331, H335, H360 O; T; Repr. Cat. 2; Repr. Cat. 3; R8 - R22 - R23 - R37 - R41 - R61 - R62	< 1%

- BSA stock solution (10%) (synonym: Bovine Serum Albumin) and Cytokine Stabilization Buffer:

Cas no.	EC no.	Index no.	Classification	Concentration
Serum albumin				
9048-46-8	232-936-2	-	-	10%

Information regarding the specific chemical identity of Cytokine Stabilization Buffer is being withheld as a trade secret of the manufacturer. However, the product contains no other substances which at their given concentration, are considered to be hazardous to health and environment according to Regulation (EC) no. 1272/2008 and to Directive 1999/45/EC and its amendments.

- Tween-20 (Tween is a registered trade mark of Uniqema, a business unit of ICI Americas Inc.; synonyms: Polyoxyethylenesorbitan monolaurate, polyethylene glycol sorbitan monolaurate):

Cas no.	EC no.	Index no.	Classification	Concentration
Tween-20				
9005-64-5	500-018-3	-	-	-

Text of Hazard statements and Risk phrases mentioned in section 3 and 16

Acute Tox. Acute toxicity
 Eye Dam. Serious eye damage
 Eye Irrit. Eye irritation
 Skin Irrit. Skin irritation

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Ox. Sol.	Oxidizing solids
Repr.	Reproductive toxicity
STOT SE	Specific target organ toxicity - single exposure
H272	May intensify fire; oxidizer
H302	Harmful if swallowed
H315	Causes skin irritation
H318	Causes serious eye damage
H319	Causes serious eye irritation
H331	Toxic if inhaled
H335	May cause respiratory irritation
H360	May damage fertility or the unborn child
O	Oxidizing
T	Toxic
Xi	Irritant
Repr.Cat.2	Toxic to Reproduction Category 2
Repr.Cat.3	Toxic to Reproduction Category 3
R8	Contact with combustible material may cause fire.
R22	Harmful if swallowed
R23	Toxic by inhalation
R36	Irritating to eyes
R37	Irritating to respiratory system
R36/37/38	Irritating to eyes, respiratory system and skin
R41	Risk of serious damage to eyes
R61	May cause harm to the unborn child
R62	Possible risk of impaired fertility

This MSDS applies for the following U-CyTech ELISA kits (5-plate format)
(please find below the catalogue number of the ELISA kit)

Analyte	Species				
	Human	Old World Monkey	New World Monkey	Mouse	Rat
IFN- γ	ACT201	ACT141	ACT340	ACT301	ACT071
IL-1 β	ACT213	ACT139			
IL-2	ACT202	ACT142		ACT309	
IL-4	ACT203	ACT143		ACT306	ACT073
IL-5	ACT204	ACT144		ACT308	
IL-6	ACT205	ACT145		ACT299	
IL-8	ACT212	ACT151			
IL-10	ACT206	ACT146		ACT307	
IL-12/23p40		ACT149			
IL-12p70	ACT210				
IL-13	ACT208	ACT147	ACT341		
IL-17	ACT516	ACT501			
IL-23	ACT517	ACT502			
G-CSF	ACT390				

Analyte	Species				
	Human	Old World Monkey	New World Monkey	Mouse	Rat
GM-CSF	ACT200	ACT140			
Granzyme B	ACT211				
Perforin	ACT391	ACT154			
TNF- α	ACT209	ACT148	ACT342	ACT303	ACT075

Further information

The information provided with this document is furnished in good faith and without warranty of any kind. Personnel handling this product must consider these data only as supplemental to other information gathered by them and must make independent determinations of this suitability and completeness of information from all sources to assure proper use and disposal of the materials and the safety and health of employees and customers. U-CyTech B.V. shall not be held liable for any damage resulting from handling or from contact with the above product.