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Safety data sheet

B cell ELISPOT kit

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

1.1 Product identifiers

Product: B cell ELISPOT kit
Catalogue no.: Please see section 16 for the exact products for which this safety data sheet (SDS) applies.
Brand: U-CyTech biosciences
REACH no.: The components of this product are mixtures. A registration number is not available for these substances as the substances or their uses are exempted from registration, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

1.2 Relevant identified uses of the product and uses advised against

Identified uses: Laboratory chemicals. To be used in U-CyTech ELISPOT systems.
For professional (R&D) use only, not for food, drug, household or other uses.

1.3 Details of the supplier of the safety data sheet

Supplier: U-CyTech biosciences
Yalelaan 42
3584 CM Utrecht
The Netherlands
Phone: +31 85 073 1460
E-mail: cs@ucytech.com

1.4 Emergency telephone number

Contact your local emergency number.

2. Hazard identification

2.1 Classification of the components in this product (substance or mixture)

Dilution buffer is classified according to Regulation (EC) no. 1272/2008 and its amendments as

Skin sensitization (Category 1): H317: May cause an allergic skin reaction.
Chronic aquatic toxicity (Category 3): H412: Harmful to aquatic life with long lasting effects.

Coating antibody, detection antibody, streptavidin-HRP conjugate, R848, recombinant IL-2, TMB substrate ELISPOT, blocking stock solution and Tween-20 are classified according to Regulation (EC) no. 1272/2008 and its amendments as

Not a hazardous substance or mixture.

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2.2 Label elements

Labeling of dilution buffer according to Regulation (EC) no. 1272/2008 and its amendments

Pictogram: 

Signal word: Warning

Hazard statement(s): H317: May cause an allergic skin reaction.
H412: Harmful to aquatic life with long lasting effects.

Precaution statement(s): P273: Avoid release to the environment.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P333 + P313: If skin irritation or a rash occurs: Get medical advice/attention.

P337 + P313: If eye irritation persists get medical advice/attention.

Supplemental hazard information: EUH208: Contains CMIT/MIT. May produce an allergic reaction.
EUH210: Safety data sheet available on request.

Labeling of coating antibody, detection antibody, streptavidin-HRP conjugate, recombinant IL-2, R848, TMB substrate ELISPOT, blocking stock solution and Tween-20 according to Regulation (EC) no. 1272/2008 and its amendments

Not a hazardous substance or mixture.

2.3 Other hazards

Tween-20 and dilution buffer contain no components considered to be either persistent, bio-accumulative and toxic (PBT), or very persistent and very bio-accumulative (vPvB) at levels of 0.1% or higher.

3. Composition/information on ingredients

3.2 Mixtures

Product name: B cell ELISPOT kit (enzymatic staining procedure on PVDF membrane-bottomed plates)

Synonyms: -

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Components:

Cas no.	EC no.	Index no.	Classification	Concentration
Coating antibody (lyophilized)				
-	-	-	-	-
Detection antibody (biotinylated, lyophilized)				
-	-	-	-	-
Streptavidin-HRP conjugate (lyophilized)				
-	-	-	-	-
Recombinant IL-2 (lyophilized)				
-	-	-	-	-
R848 (lyophilized; synonym: resiquimod)				
-	-	-	-	-
TMB substrate ELISPOT				
-	-	-	-	-
Blocking stock solution (10x)				
-	-	-	-	-
Dilution buffer (10X)				
-	-	-	Skin Sens. 1 (H317); Aquatic Chronic 3 (H412)	-
Tween®-20 ($C_{58}H_{114}O_{26}$)*				
9005-64-5	500-018-3	-	-	100%

For the full text of the Hazard statements mentioned in this section and (hazardous) ingredients of the components, see section 16 of this SDS.

*) Tween is a registered trade mark of Uniqema, a business unit of ICI Americas Inc.

4. First aid measures

4.1 Description of first aid measures

General advice: In case of skin or eye irritation, if breathing becomes difficult or feeling unwell or concerned, consult physician and show this SDS.

After contact with skin: Dilution buffer: Remove contaminated clothing and shoes. Wash contaminated area with water / shower. In case of skin irritation, consult a physician.

Other components: Remove contaminated clothing and shoes. Wash contaminated area with water / shower.

After swallowing: Dilution buffer: Do NOT induce vomiting. If the person is conscious rinse mouth with water. Consult a physician immediately.

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	Other components: If the person is conscious, rinse mouth with plenty of water and make the person drink water (two glasses at most). Consult a physician if not feeling well.
After contact with eyes:	Rinse continuously with plenty of water for several minutes. Confirm adequate flushing by separating the eyelids. Remove contact lenses if present and easy to do – continue rinsing. Consult an ophthalmologist.
After inhalation:	Provide fresh air. If breathing becomes difficult, consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in section 2 and 11.

4.3 Indication of any immediate medical attention and special treatment needed

No further data available. Note to physician: treat symptomatically.

5. Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media: Water spray, foam, carbon dioxide (CO_2), dry powder. Water mist may be used to cool closed containers.

Unsuitable extinguishing media: No limitations of extinguishing agents are given.

5.2 Special hazards arising from substance or mixture

Hazardous combustion products:

Tween-20:	Carbon oxides. Development of hazardous combustion gases or vapor possible in event of fire. Vapor is heavier than air and may spread along floors.
Other components:	No data available.

5.3 Advice for fire fighters

Stay in danger area only with self-contained breathing apparatus and protective clothing.

5.4 Further information

Prevent fire extinguishing water from contaminating surface water or the ground water system.

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment to avoid exposure (section 8). Follow general safety rules for laboratories. Evacuate personnel to safe areas in case of an emergency.

6.2 Environmental precautions

Do not let mixtures enter surface water, (sub)soil or drains. Prevent further leakage if safe to do so. If large amounts of the mixtures contaminate drains, inform appropriate authorities in accordance with local regulation.

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6.3 Methods and materials for containment and cleaning up

Cover drains. Contain spillage. Observe possible material restrictions (sections 7 and 10).

Coating antibody, detection antibody, streptavidin-HRP conjugate, recombinant IL-2:
Take up dry. Dispose of properly (section 13). Clean up affected area. Avoid generation of dust.

Other components (and above-mentioned components when reconstituted):
Take up with inert absorbent material and keep in suitable, closed containers for disposal (section 13).

7. Handling and storage

7.1 Precautions for safe handling

Safe handling: For laboratory use only. Ensure adequate ventilation. Handle and open containers with care. Always close containers tightly after removal of product.

Dilution buffer: Avoid formation of aerosols. Avoid exposure.

Hygiene measures: Follow general safety rules for laboratories. Wear personal protective equipment to avoid (prolonged or repeated) exposure (section 2.2 and 8). Immediately change contaminated clothing. Wash hands before breaks and after work.

7.2 Conditions for safe storage, including any incompatibilities

Safe storage: Store product in a well-ventilated place. Keep containers tightly closed and upright to prevent leakage.

Streptavidin-HRP conjugate and R848: Store at -32 to -18°C. Keep away from light.

Recombinant IL-2: Store at -32 to -18°C.

Tween-20: Store at ambient temperature: 20-26 °C. Keep away from light.

Other components: Store at 2-8 °C.

7.3 Specific end use(s)

Use in laboratories.

8. Exposure controls/personal protection

8.1 Control parameters

These mixtures do not contain substances above concentration limits fixing an occupational exposure limit.

8.2 Exposure controls

General protective 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

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practice. Wash hands before breaks and at the end of the workday. Immediately change contaminated clothing. Keep away from food and beverages.

Personal protective equipment

Eye protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN166 (EU). Use tightly fitting safety goggles.

Skin and body protection

Wear appropriate protective gloves and a lab coat to prevent skin exposure.
Protective gloves must satisfy the specifications of Regulation (EU) 2016/425 and the standard EN374 derived from it. Observe the instructions regarding permeability and breakthrough time which are provided by the suppliers of the gloves. Make sure the gloves are suitable for the task regarding chemical compatibility, dexterity, operational conditions and user susceptibility (e.g. sensation effects). Take also the specific local conditions under which the product is used into consideration (e.g. danger of cuts).
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.
This recommendation applies only to the product stated in this SDS and for the designed use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves.

Respiratory protection

Required when aerosols are generated, when workers are facing concentrations above the exposure limits or where risk assessment shows air-purifying respirators are appropriate.
Use respirators and components tested and approved under appropriate government standards such as NIOHS (US) or CEN (EU).
To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly.

Control of environmental expose

Do not let mixtures enter drains.

9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Coating antibody, detection antibody, streptavidin-HRP conjugate, recombinant IL-2:

A. Appearance (at 20 °C):	Solid, white (lyophilized).
B. Odor:	No data available.
C. Odor threshold:	No data available.
D. pH (at 20°C):	No data available.
E. Melting/freezing point:	No data available.
F. Initial boiling and boiling range:	No data available.
G. Flash point:	No data available.

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H. Evaporation rate:	No data available.
I. Flammability (solid, gas):	No data available.
J. Upper/lower flammability or explosive limits:	No data available.
K. Vapor pressure:	No data available.
L. Vapor density:	No data available.
M. Relative density:	No data available.
N. Solubility(ies):	Soluble in water.
O. Partition coefficient: n-octanol/water:	No data available.
P. Auto-ignition temperature:	No data available.
Q. Decomposition temperature:	No data available.
R. Viscosity:	No data available.
S. Explosive properties:	No data available.
T. Oxidizing properties:	No data available.

R848:

A. Appearance (at 20 °C):	Colorless liquid (transparent).
B. Odor:	No data available.
C. Odor threshold:	No data available.
D. pH (at 20°C):	No data available.
E. Melting/freezing point:	No data available.
F. Initial boiling and boiling range:	No data available.
G. Flash point:	No data available.
H. Evaporation rate:	No data available.
I. Flammability (solid, gas):	No data available.
J. Upper/lower flammability or explosive limits:	No data available.
K. Vapor pressure:	No data available.
L. Vapor density:	No data available.
M. Relative density:	No data available.
N. Solubility(ies):	Does not apply, mixture is an aqueous solution.
O. Partition coefficient: n-octanol/water:	No data available.
P. Auto-ignition temperature:	No data available.
Q. Decomposition temperature:	No data available.
R. Viscosity:	No data available.
S. Explosive properties:	No data available.
T. Oxidizing properties:	No data available.

TMB substrate:

A. Appearance (at 20 °C):	Colorless liquid (transparent).
B. Odor:	No data available.
C. Odor threshold:	No data available.
D. pH (at 20°C):	No data available.
E. Melting/freezing point:	No data available.
F. Initial boiling and boiling range:	~100 °C
G. Flash point:	Does not apply.
H. Evaporation rate:	No data available.
I. Flammability (solid, gas):	No data available.
J. Upper/lower flammability or explosive limits:	No data available.

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K. Vapor pressure:	~ 2.3 hPa (at 20 °C).
L. Vapor density:	No data available.
M. Relative density:	~1 (at 20 °C).
N. Solubility(ies):	Completely soluble in water.
O. Partition coefficient: n-octanol/water:	No data available.
P. Auto-ignition temperature:	Does not apply.
Q. Decomposition temperature:	No data available.
R. Viscosity:	No data available.
S. Explosive properties:	Does not apply, mixture is not explosive.
T. Oxidizing properties:	No data available.

Blocking stock solution:

A. Appearance (at 20 °C):	Light yellow liquid (transparent).
B. Odor:	No data available.
C. Odor threshold:	No data available.
D. pH (at 20°C):	No data available.
E. Melting/freezing point:	No data available.
F. Initial boiling and boiling range:	No data available.
G. Flash point:	No data available.
H. Evaporation rate:	No data available.
I. Flammability (solid, gas):	No data available.
J. Upper/lower flammability or explosive limits:	No data available.
K. Vapor pressure:	No data available.
L. Vapor density:	No data available.
M. Relative density:	No data available.
N. Solubility(ies):	Does not apply, mixture is an aqueous solution.
O. Partition coefficient: n-octanol/water:	No data available.
P. Auto-ignition temperature:	No data available.
Q. Decomposition temperature:	No data available.
R. Viscosity:	No data available.
S. Explosive properties:	No data available.
T. Oxidizing properties:	No data available.

Dilution buffer:

A. Appearance (at 20 °C):	Light yellow liquid (transparent) (at 20 °C).
B. Odor:	Odorless.
C. Odor threshold:	Does not apply, mixture is odorless.
D. pH (at 20°C):	7.2 ± 0.2
E. Melting/freezing point:	No data available.
F. Initial boiling and boiling range:	No data available.
G. Flash point:	No data available.
H. Evaporation rate:	No data available.
I. Flammability (solid, gas):	Does not apply.
J. Upper/lower flammability or explosive limits:	Does not apply, mixture is not flammable.
K. Vapor pressure:	No data available.
L. Vapor density:	No data available.
M. Relative density:	1.1 (at 20 °C).

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N. Solubility(ies):	Does not apply, mixture is an aqueous solution.
O. Partition coefficient: n-octanol/water:	No data available.
P. Auto-ignition temperature:	No data available.
Q. Decomposition temperature:	No data available.
R. Viscosity:	No data available.
S. Explosive properties:	Does not apply, mixture is not explosive.
T. Oxidizing properties:	None.

Tween-20:

A. Appearance (at 20 °C):	Yellow liquid (viscous).
B. Odor:	Odorless.
C. Odor threshold:	No data available.
D. pH (at 20°C):	7.
E. Melting/freezing point:	Melting point: 98.9 °C.
F. Initial boiling and boiling range:	> 100 °C.
G. Flash point:	275 °C at ca. 1,013 hPa.
H. Evaporation rate:	No data available.
I. Flammability (solid, gas):	No data available.
J. Upper/lower flammability or explosive limits:	No data available.
K. Vapor pressure:	< 1.4 hPa at 20 °C.
L. Vapor density:	No data available.
M. Relative density:	1,095 g/ml at 25 °C.
N. Solubility(ies):	In water: 0.0002 g/l at 20 °C.
O. Partition coefficient: n-octanol/water:	No data available.
P. Auto-ignition temperature:	No data available.
Q. Decomposition temperature:	No data available.
R. Viscosity:	No data available.
S. Explosive properties:	No data available.
T. Oxidizing properties:	No data available.

9.2 Other information

No additional information relevant to safe use of the mixtures.

10. Stability and reactivity

10.1 Reactivity

Tween-20 forms explosive mixtures with air on intense heating. A range from approximately 15 Kelvin below the flash point is to be rated as critical.
Other components: no specific test data related to reactivity available for these mixtures or their ingredients.

10.2 Chemical stability

The mixtures are chemically stable under recommended conditions of storage, use and temperature.

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10.3 Possibility of hazardous reactions

Dilution buffer: Violent reactions possible with the generally known reaction partners of water.
Other components: No hazardous reaction when handled and stored according to recommended conditions of storage, use and temperature.

10.4 Conditions to avoid

Tween-20: Strong heating.
Dilution buffer: No specific conditions to avoid.
Other components: No data available.

10.5 Incompatible materials

Tween-20: Strong oxidizing agents.
Other components: No data available.

10.6 Hazardous decomposition products

Tween-20: Hazardous decomposition products formed under fire conditions - carbon oxides.
Other components: Does not decompose when used for intended uses (section 1.2).

11. Toxicological information

11.1 Information on toxicological effects

Tween-20

Acute toxicity: LD50 oral - rat - 38,900 mg/kg.
LD50 inhalation - rat - male and female - 4h - >5.1 mg/l.
Skin corrosion/irritation: Skin - rabbit - result: no skin irritation - 4h.
Serous eye damage/irritation: No data available.
Respiratory/skin sensitization: Guinea pig: does not cause skin sensitization.
Germ cell mutagenicity: Ames test - Escherichia coli/Salmonella typhimurium - result: negative.
Carcinogenicity: No component of this ingredient is present at levels higher than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
Reproductive toxicity: No data available.
Specific target organ toxicity (single and repeated): No data available.
Aspiration hazard: No data available.

Other mixtures

Acute toxicity: No data available.
Skin corrosion/irritation: No data available.
Serous eye damage/irritation: No data available.
Respiratory/skin sensitization: No data available.
Germ cell mutagenicity: No data available.
Carcinogenicity: No data available.
Reproductive toxicity: No data available.

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

11.2 Additional information

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 other components:
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.
Hazardous properties cannot be excluded but are unlikely when the product is handled with the care usual when dealing with chemicals.

(Hazardous) ingredients of coating antibody, detection antibody, streptavidin-HRP conjugate, recombinant IL-2 (section 16):

Proteins (antibodies, streptavidin - horseradish peroxidase polymer or cytokines) and phosphate-buffered saline:
Acute toxicity: There is no evidence available indicating acute toxicity.
Skin corrosion/irritation: No data available.
Serous eye damage/irritation: No data available.
Respiratory/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 and repeated): No data available.
Aspiration hazard: No data available.

Serum albumin *(this ingredient is no part of coating antibody)*:
Acute toxicity: No data available.
Skin corrosion/irritation: No data available.
Serous eye damage/irritation: No data available.
Respiratory/skin sensitization: No data available.
Germ cell mutagenicity: No data available.
Carcinogenicity: No component of this ingredient is present at levels higher than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
Reproductive toxicity: No data available.
Specific target organ toxicity (single and repeated): No data available.
Aspiration hazard: No data available.

Trehalose, dihydrate:
Acute toxicity: LD50 oral - rat - male and female - >16,000 mg/kg.
Skin corrosion/irritation: Skin - rabbit: result: no skin irritation.

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Serous eye damage/irritation: Eyes - rabbit: result: no eye irritation.
Respiratory/skin sensitization: Human - result: negative.
Germ cell mutagenicity: *In vitro* mammalian cell gene mutation test - Chinese hamster fibroblast - with and without metabolic activation - result: negative.
Mammalian bone marrow sister chromatid exchange - mouse - result: negative.
Carcinogenicity: No data available.
Reproductive toxicity: No data available.
Specific target organ toxicity (single and repeated): No data available.
Aspiration hazard: No data available.

(Hazardous) ingredients of R848 (section 16):

R848 (synonym: resiquimod):
Acute toxicity: No data available.
Skin corrosion/irritation: No data available.
Serous eye damage/irritation: No data available.
Respiratory/skin sensitization: No data available.
Germ cell mutagenicity: No data available.
Carcinogenicity: No component of this ingredient is present at levels higher than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
Reproductive toxicity: No data available.
Specific target organ toxicity (single and repeated): No data available.
Aspiration hazard: No data available.
Additional information: RTECS: LQ1925000.

Dimethyl sulfoxide:
Acute toxicity: LD50 oral - rat - male and female - 28,300 mg/kg.
LD50 inhalation - rat - male and female - 4h - 5.33 mg/l.
LD50 dermal rat - male and female - 40,000 mg/kg.
Skin corrosion/irritation: Skin - rabbit: result: slight skin irritation (4h).
Serous eye damage/irritation: Eyes - rabbit: result: slight eye irritation (24h).
Respiratory/skin sensitization: Guinea pig: does not cause skin sensitization.
Germ cell mutagenicity: Ames test - Salmonella typhimurium - result: negative.
Carcinogenicity: No data available.
Reproductive toxicity: No data available.
Specific target organ toxicity (single and repeated): No data available.
Aspiration hazard: No data available.
Additional information: Repeated dose toxicity: monkey - male and female - dermal - 18 months - no observed adverse effect level - 3,300 mg/kg / lowest observed effect level - 990 mg/kg.

Phosphate-buffered saline:
Acute toxicity: There is no evidence available indicating acute toxicity.
Skin corrosion/irritation: No data available.

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Serous eye damage/irritation: No data available.
Respiratory/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 and repeated): No data available.
Aspiration hazard: No data available.

(Hazardous) ingredients of blocking stock solution (section 16):

Streptomycin sulfate:
Acute toxicity: LD50 oral - rat - 430 mg/kg.
Skin corrosion/irritation: No data available.
Serous eye damage/irritation: No data available.
Respiratory/skin sensitization: No data available.
Germ cell mutagenicity: No data available.
Carcinogenicity: No component of this ingredient is present at levels higher than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
Reproductive toxicity: May cause adverse reproductive effects - such as birth defect, miscarriages, or infertility.
Specific target organ toxicity (single and repeated): No data available.
Aspiration hazard: No data available.

Hazardous ingredient of TMB substrate (section 16):
Acute toxicity:
Inhalation: LC50 (rat) >4.62 mg/L/4H (vapours).
Skin corrosion/irritation: LD50 (rabbit) = 660 mg/kg
Oral: LD50 (rat) = 457 mg/kg
Respiratory/skin sensitization: Ingredient may cause an allergic skin reaction.
Germ cell mutagenicity: No data available.
Carcinogenicity: No data available.
Reproductive toxicity: No data available.
Specific target organ toxicity (single and repeated): No data available.
Aspiration hazard: No data available.

(Hazardous) ingredients of dilution buffer (section 16):

Proclin 300:
Acute toxicity: LD50 oral - rat - 53 mg/kg.
Skin corrosion/irritation: Skin - rabbit: result: corrosive.
Serous eye damage/irritation: Eyes - rabbit: result: corrosive.
Respiratory/skin sensitization: Guinea pig: may cause sensitization by skin contact.
Ingredient may cause an allergic skin reaction.
Germ cell mutagenicity: No data available.
Carcinogenicity: No data available.
Reproductive toxicity: No data available.

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

12. Ecological information

Mixtures

12.1 Toxicity:

Tween-20: LL50 - Danio rerio (zebra fish) - >100 mg/ml - 96h.
EC50 - Daphnia (water flea) - >10 mg/l - 48h.
EC50 - Bacteria - 146-774 mg/l - 5 min.

Other components: No data available.

12.2 Persistence and degradability:

Tween-20: Aerobic - exposure time 28d - result: >60% - readily biodegradable.

Other components: No data available.

12.3 Bio-accumulative potential: No data available.

12.4 Mobility in soil: No data available.

12.5 Results of PBT and vPvB assessment:

Dilution buffer and TMB substrate:

This substance/mixture contains no components considered to be either PBT or vPvB at levels of 0.1% or higher.

Other components: No data available.

12.6 Other adverse effects: No data available.

Ingredient coating antibody, detection antibody, streptavidin-HRP conjugate recombinant IL-2:
Toxicity Trehalose, dihydrate:
Static test EC50 - Daphnia magna (water flea) - >100 mg/l - 48h
Static test ErC50 - Desmodesmus sunspicatus (green algae) - 30.41 mg/l - 72h
Biodegradability ingredient Trehalose, dihydrate:
Aerobic - exposure time 28d
Remarks: The 10 day time window criterion is not fulfilled. (anhydrous substance)

Ingredient R848:
Toxicity Dimethyl sulfoxide:
Static test LD50 - Danio rerio (zebra fish) - >25,000 mg/l - 96h
Static test EC50 - Daphnia magna (water flea) - 24,600 mg/l - 48h
Static test ErC50 - Pseudokirchneriella subcapitata (green algae) - 17,000 mg/l - 72h
Biodegradability ingredient Dimethyl sulfoxide:
Aerobic - exposure time 28d - result: 31% - not readily biodegradable

13. Disposal considerations

13.1 Waste treatment methods

Products: The generation of waste should be avoided or minimized wherever possible. Waste material must be disposed in accordance with local, regional and national/federal regulations. Do not let products enter drains.

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The waste of AEC stock solution is classified as hazardous: offer surplus and non-recyclable solution to licensed disposal company.

Packaging: Dispose of as unused product.

14. Transport information

14.1 UN number (ADR, RID, ADN, IMDG, IATA): Not applicable.
14.2 UN proper shipping name (ADR, RID, ADN, IMDG, IATA): Not dangerous.
14.3 Transport hazard class(es) (ADR, RID, ADN, IMDG, IATA): Not applicable.
14.4 Packing group (ADR, RID, ADN, IMDG, IATA): Not applicable.
14.5 Environmental hazards: None.
14.6 Special precautions for user: Not applicable.
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code: Not applicable.

15. Regulatory information

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

Dilution buffer:
German Water hazard class: WGK2 (self-classified).
German Storage class: Class 12 (self-classified).
Other components:
German Water hazard class: No data available.

15.2 Chemical Safety Assessment

For these mixtures a chemical safety assessment has not been carried out.

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16. Other information

This SDS applies to the following U-CyTech B cell ELISPOT kits

Analyte	Human	Monkey	Mouse
IgM	CT782-B5	CT786-B5	
IgG	CT780-B5	CT785-B5	CT790-B5
IgG_1			CT791-B5
IgG_{2a}			CT792-B5
IgG_{2b}			CT793-B5

Specific (hazardous) ingredients of the components in this product

- Coating antibody, detection antibody, streptavidin-HRP conjugate, recombinant IL-2 - items are lyophilized, when reconstituted:

Cas no.	EC no.	Index no.	Classification	Concentration
Proteins (antibodies, streptavidin - horseradish peroxidase polymer or cytokines respectively)				
-	-	-	-	< 1% (v/v)
Serum albumin (*this ingredient is no part of coating antibody)*				
9048-46-8	232-936-2	-	-	1% (w/v)
Trehalose, dihydrate ($C_{12}H_{22}O_{11} \bullet 2H_2O$)				
6138-23-4	202-739-6	-	-	< 5% (w/v)
Phosphate-buffered saline (PBS)				
-	-	-	-	> 90% (v/v)

- R848:

Cas no.	EC no.	Index no.	Classification	Concentration
R848 (synonym: resiquimod; $C_{17}H_{22}N_4O_2$)				
144875-48-9	-	-	-	0.1% (w/v)
Dimethyl sulfoxide (C_2H_6OS)				
67-68-5	200-664-3	-	-	1% (v/v)
Phosphate-buffered saline (PBS)				
-	-	-	-	> 95% (v/v)

- Blocking stock solution:

Cas no.	EC no.	Index no.	Classification	Concentration
Streptomycin sulfate				
3810-74-0	223-286-0	-	Acute Tox. 4 (H302); Repr. 2 (H361)	0.007-0.021% (v/v)

No further components need to be disclosed according to the applicable regulations.

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- Dilution buffer:

Cas no.	EC no.	Index no.	Classification	Concentration
Proclin 300 (mixture of: CMIT/MIT: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-2H-isothiazol-3-one [3:1])				
55965-84-9	911-418-6	613-167-00-5	Acute Tox. 2 (H310, H330), Acute Tox. 3 (H301), Skin Corr. 1C (H314), Eye Dam. 1 (H318), Skin Sens. 1A (H317), Aquatic Acute 1 (H400), Aquatic Chronic 1 (H410) Concentration limits: ≥ 0.6%: Skin Corr. 1C, H314 ≥ 0.06% - < 0.6%: Skin Irrit. 2, H315 ≥ 0.0015% - < 0.06%: Skin Sens. 1A, H317 ≥ 0.6%: Eye Dam. 1, H318 ≥ 0.06% - < 0.6%: Eye Irrit. 2, H319 M-factor: Aquatic Acute: 100 Aquatic Chronic: 100	0.0273% (w/w)

Proclin is a registered trade mark of Rohn and Haas Company.

TMB substrate:

Cas no.	EC no.	Index no.	Classification	Concentration
CMIT/MIT: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC no. 220-239-6] (3:1)				
55965-84-9	-	613-167-00-5	Acute Tox. 2 (H310, H330), Acute Tox. 3 (H301), Skin Corr. 1C (H314), Eye Dam. 1 (H318), Skin Sens. 1A (H317), Aquatic Acute 1 (H400; M=100), Aquatic Chronic 1 (H410; M=100); EUH071 Concentration limits: ≥ 0.6%: Skin Corr. 1C, H314 ≥ 0.06% - < 0.6%: Skin Irrit. 2, H315 ≥ 0.0015% - < 0.06%: Skin Sens. 1A, H317 ≥ 0.6%: Eye Dam. 1, H318 ≥ 0.06% - < 0.6%: Eye Irrit. 2, H319	<15 ppm

No further components need to be disclosed according to the applicable regulations.

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Reason for revision: Adjustments in ingredients. Layout change

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

Acute Tox.	Acute toxicity
Aquatic Acute	Acute aquatic toxicity
Aquatic Chronic	Chronic aquatic toxicity
Carc.	Carcinogenicity
Eye Dam.	Eye damage
Eye Irrit.	Eye irritation
Flam. Liq.	Flammable liquids
Repr.	Reproductive toxicity
Skin Corr.	Skin corrosion
Skin Irrit.	Skin irritation
Skin Sens.	Skin sensitization
STOT SE	Specific target organ toxicity – single exposure
H226	Flammable liquid and vapor
H301	Toxic if swallowed
H302	Harmful if swallowed
H310	Fatal in contact with skin
H314	Causes severe skin burns and eye damage
H315	Causes skin irritation
H317	May cause allergic skin reaction
H318	Causes serious eye damage
H319	Causes serious eye irritation
H330	Fatal if inhaled
H335	May cause respiratory irritation
H350	May cause cancer
H361	Suspected of damaging fertility or the unborn child
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects

Abbreviations and acronyms:

AEC:	3-Amino-9-ethylcarbazole
ADN:	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR:	European Agreement concerning the International Carriage of Dangerous Goods by Road
CAS:	Chemical Abstract Service
CE:	Conformité Européenne
CEN:	European Committee for Standardization
CET:	Central European Time
CMIT/MIT:	5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-2H-isothiazol-3-one
EC:	European Commission
EC50:	Effective concentration, 50%
EC no:	European Chemical number
EQ:	Excepted quantities
ErC50:	Concentration with 50% reduction in growth rate
EU:	European Union
IARC:	International Agency for Research on Cancer

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IATA:	International Air Transport Association
IBC code:	International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in bulk
Ig:	Immunoglobulin
IMDG:	International Maritime Dangerous Goods
LD50:	Lethal dose, 50%
LL50:	Lethal load, 50%
LQ:	Limited quantities
Marpol:	Marine Pollution
M-factor:	multiplication factor
NIOSH:	National Institute for Occupational Safety & Health
No:	Number
N.O.S.:	Not otherwise specified
PBS:	Phosphate buffered saline
PBT:	Persistent, bio-accumulative and toxic
R&D:	Research & Development
REACH:	Registration, Evaluation, Authorization and restriction of Chemicals
RTECS:	Registry of Toxic Effects of Chemical Substances
RID:	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS:	Safety data sheet
UN:	United Nations
US:	United States
WGK:	German Water Endangerment Class
vPvB:	Very persistent and very bio-accumulative

Further information

The information provided in this SDS is to the best of our knowledge and present information. The information is described as a guidance for safe handling and is not considered a warranty or quality specification. The information is only applicable to the described products and may not be valid for such products used in combination with any other products, materials or in any process, unless specified in the text. U-CyTech B.V. shall not be held liable for any damage resulting from handling or from contact with the above products.