

Product code	Description
550610	Human TNF ELISA Kit II
Components:	
550610a	Human TNF Antibody Coated Plate (51-27241E)
550610b	Detection Antibody Biotin Anti-human TNF (51-27242E)
550610c	Human TNF Standard (51-27246E)
550610d	Enzyme Concentrate Streptavidin -HRP (51-9002833)
550610e	Wash Concentrate (20X) (51-9003738)
550610f	TMB One-Step Substrate Reagent (51-2709KD)
550610g	Stop Solution (51-2608KC)
550610h	Standard/Sample Diluent (51-2708KD)
550610i	ELISA Diluent (51-2707KD)

1 Identification of the substance/mixture and of the company/undertaking

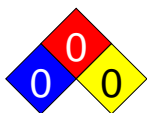
- **Product identifier**
- **Product name:** *Human TNF Antibody Coated Plate (51-27241E)*
- **Catalog number:** 550610a
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
BD Biosciences, Pharmingen
10975 Torreyana Road
San Diego, CA 92121-1106
Tel. (877)232-8995
- **Information department:** Technical Services
- **Emergency telephone number:**
In case of a chemical emergency, spill, fire, exposure, or accident please call ChemTrec at (800)424-9300 or 911

2 Composition/information on ingredients

- **Chemical characterization:** *Mixtures*
- **Description:** *Mixture of the substances listed below with nonhazardous additions.*
- | CAS NO. | Description | % Void |
|---------|-------------|--------|
|---------|-------------|--------|

3 Hazards identification

- **Classification of the substance or mixture**
The product is not classified according to the Globally Harmonized System (GHS).
- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**
This product contains no hazardous constituents, or the concentration of all chemical constituents are below the regulatory threshold limits described by Occupational Safety Health Administration Hazard Communication Standard 29 CFR 1910.1200 and the European Directive 91/155/EEC, and 93/112/EC.
- **Void**
- **Classification system:**
The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.
- **Label elements**
- **Labelling according to EU guidelines:**
Observe the general safety regulations when handling chemicals
The product is not subject to identification regulations pertaining to regulations on hazardous materials.
- **Classification system**
- **NFPA ratings (scale 0-4)**



Health = 0
Flammability = 0
Reactivity = 0

4 First aid measures

- **General information** *No special measures required.*
- **After inhalation** *Seek medical treatment in case of complaints.*
- **After skin contact** *Immediately wash with water and soap and rinse thoroughly.*
- **After eye contact**
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

(Contd. on page 2)

Product name: Human TNF Antibody Coated Plate (51-27241E)

(Contd. of page 1)

· **After swallowing** If symptoms persist consult doctor.

5 Firefighting measures

- **Suitable extinguishing agents**
CO₂, ABC multipurpose dry chemical or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Protective equipment:** No special measures required.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:** Wipe up with damp sponge or mop.
- **Methods and material for containment and cleaning up:** No special measures required.
- **Reference to other sections**
No dangerous substances are released.
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

- **Handling**
- **Precautions for safe handling** No special measures required.
- **Information about protection against explosions and fires:** No special measures required.
- **Storage**
- **Requirements to be met by storerooms and receptacles:** 4 °C
- **Information about storage in one common storage facility:** Store away from oxidizing agents.
- **Further information about storage conditions:** Store in cool, dry conditions in well sealed containers.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Components with limit values that require monitoring at the workplace:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Additional information:** The lists that were valid during the creation were used as basis.
- **Personal Protective Equipment**
- **General protective and hygienic measures**
The usual precautionary measures for handling chemicals should be followed.
- **Breathing equipment:** Not required.
- **Protection of hands:**



Chemical resistant gloves (i.e. nitrile, or equivalent).

(Contd. on page 3)

USA

Printing date 04/03/2012

Reviewed on 02/15/2012

Product name: Human TNF Antibody Coated Plate (51-27241E)

(Contd. of page 2)

- **Eye protection:** Safety glasses
- **Body protection:** Protective work clothing (lab coat).

9 Physical and chemical properties

- **General Information**
- **Appearance:**
 - Form:** Solid.
 - Color:** Clear
- **Odor:** Characteristic
- **Odour threshold:** Not determined.
- **pH-value:** 7.2-7.6
- **Change in condition** Undetermined
- **Melting point/Melting range:** Not determined
- **Boiling point/Boiling range:** Not determined
- **Flash point:** Not applicable
- **Flammability (solid, gaseous)** Not applicable.
- **Ignition temperature:**
- **Decomposition temperature:** Not determined.
- **Auto igniting:** Product is not self igniting.
- **Danger of explosion:** Product does not present an explosion hazard.
- **Explosion limits:**
 - Lower:** Not determined.
 - Upper:** Not determined.
- **Vapor pressure:** Not applicable
- **Density:** Not determined
- **Relative density** Not determined.
- **Vapour density** Not determined.
- **Evaporation rate** Not determined.
- **Solubility in / Miscibility with Water:** Not miscible or difficult to mix
- **Segregation coefficient (n-octanol/water):** Not determined.
- **Viscosity:**
 - dynamic:** Not determined.
 - kinematic:** Not determined.
- **Solvent content:**
 - Organic solvents:** 0.0 %
- **Other information** No further relevant information available.

10 Stability and reactivity

- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.

(Contd. on page 4)

Product name: Human TNF Antibody Coated Plate (51-27241E)

(Contd. of page 3)

- **Incompatible materials:**
Incompatible material: strong oxidizers.
No further relevant information available.
- **Hazardous decomposition products:** *No dangerous decomposition products known.*

11 Toxicological information

- **Acute toxicity:**
- **Primary irritant effect:**
 - **on the skin:** *No irritating effect.*
 - **on the eye:** *No irritating effect.*
- **Sensitization:** *No sensitizing effects known.*
- **Additional toxicological information:**
The product is not subject to OSHA classification according to internally approved calculation methods for preparations.
When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

12 Ecological information

- **Aquatic toxicity:** *No further relevant information available.*
- **Persistence and degradability** *No further relevant information available.*
- **Behavior in environmental systems:**
- **Bioaccumulative potential** *No further relevant information available.*
- **Ecotoxicological effects:**
- **Other information:**
The ecological effects have not been thoroughly investigated, but currently none have been identified.
- **Additional ecological information:**
- **General notes:** *Generally not hazardous for water.*

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation**
Smaller quantities can be disposed of with solid waste.
This product is not considered a RCRA hazardous waste.
Dispose of material in accordance with federal (40 CFR 261), state and local requirements.
- **Uncleaned packagings:**
- **Recommendation:** *Disposal must be made according to state and federal regulations.*
- **Recommended cleansing agent:** *Water, if necessary with cleansing agents.*

14 Transport information

- | | |
|------------------------------------|------|
| · UN-Number | |
| · DOT, ADR, ADN, IMDG, IATA | Void |
| · UN proper shipping name | |
| · DOT, ADR, ADN, IMDG, IATA | Void |

(Contd. on page 5)

Printing date 04/03/2012

Reviewed on 02/15/2012

Product name: Human TNF Antibody Coated Plate (51-27241E)

(Contd. of page 4)

- | | |
|--|-----------------|
| · Transport hazard class(es) | |
| · DOT, ADR, ADN, IMDG, IATA | |
| · Class | Void |
| · Packing group | |
| · DOT, ADR, IMDG, IATA | Void |
| · Environmental hazards: | |
| · Marine pollutant: | No |
| · Special precautions for user | Not applicable. |
| · Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code | Not applicable. |
| · UN "Model Regulation": | - |

15 Regulatory information

- | |
|--|
| · SARA Section 355 (extremely hazardous substances) |
| None of the ingredients is listed. |
| · SARA Section 313 (specific toxic chemical listings) |
| None of the ingredients is listed. |
| · TSCA (Toxic Substances Control Act) |
| None of the ingredients is listed. |
| · California Proposition 65 - Chemicals known to cause cancer |
| None of the ingredients is listed. |
| · Chemicals known to cause reproductive toxicity for females: |
| None of the ingredients is listed. |
| · Chemicals known to cause reproductive toxicity for males: |
| None of the ingredients is listed. |
| · Chemicals known to cause developmental toxicity: |
| None of the ingredients is listed. |
| · Carcinogenic categories |
| · IARC (International Agency for Research on Cancer) |
| None of the ingredients is listed. |
| · NTP (National Toxicology Program) |
| None of the ingredients is listed. |
| · TLV (Threshold Limit Value established by ACGIH) |
| None of the ingredients is listed. |

- **Product related hazard information:**
Observe the general safety regulations when handling chemicals
The product is not subject to identification regulations pertaining to regulations on hazardous materials.

(Contd. on page 6)

Printing date 04/03/2012

Reviewed on 02/15/2012

Product name: Human TNF Antibody Coated Plate (51-27241E)

(Contd. of page 5)

- **National regulations**
- **Water hazard class:** Generally not hazardous for water.

16 Other information

To the best of our knowledge, the information contained herein is accurate. However, neither Becton, Dickinson and Company or any of its subsidiaries assumes any liabilities whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

- **Department issuing MSDS:** Safety and Environment Department
- **Contact:** Technical Service Representative
- **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

ICAO: International Civil Aviation Organization

ACGIH: American Conference of Governmental Industrial Hygienists

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

USA

1 Identification of the substance/mixture and of the company/undertaking

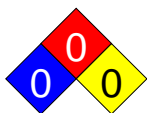
- **Product identifier**
- **Product name:** Detection Antibody Biotin Anti-human TNF (51-27242E)
- **Catalog number:** 550610b
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
BD Biosciences, Pharmingen
10975 Torreyana Road
San Diego, CA 92121-1106
Tel. (877)232-8995
- **Information department:** Technical Services
- **Emergency telephone number:**
In case of a chemical emergency, spill, fire, exposure, or accident please call ChemTrec at (800)424-9300 or 911

2 Composition/information on ingredients

- **Chemical characterization:** Mixtures
- **Description:** Mixture of the substances listed below with nonhazardous additions.
- | CAS NO. | Description | % Void |
|---------|-------------|--------|
|---------|-------------|--------|

3 Hazards identification

- **Classification of the substance or mixture**
The product is not classified according to the Globally Harmonized System (GHS).
- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**
This product contains no hazardous constituents, or the concentration of all chemical constituents are below the regulatory threshold limits described by Occupational Safety Health Administration Hazard Communication Standard 29 CFR 1910.1200 and the European Directive 91/155/EEC, and 93/112/EC.
- **Void**
- **Classification system:**
The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.
- **Label elements**
- **Labelling according to EU guidelines:**
Observe the general safety regulations when handling chemicals
The product is not subject to identification regulations pertaining to regulations on hazardous materials.
- **Classification system**
- **NFPA ratings (scale 0-4)**



Health = 0
Flammability = 0
Reactivity = 0

4 First aid measures

- **General information** No special measures required.
- **After inhalation** Seek medical treatment in case of complaints.
- **After skin contact** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact**
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

(Contd. on page 2)

Product name: Detection Antibody Biotin Anti-human TNF (51-27242E)

(Contd. of page 1)

· **After swallowing** If symptoms persist consult doctor.

5 Firefighting measures

- **Suitable extinguishing agents**
CO₂, ABC multipurpose dry chemical or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Protective equipment:** No special measures required.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:** Wipe up with damp sponge or mop.
- **Methods and material for containment and cleaning up:** No special measures required.
- **Reference to other sections**
No dangerous substances are released.
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

- **Handling**
- **Precautions for safe handling** No special measures required.
- **Information about protection against explosions and fires:** No special measures required.
- **Storage**
- **Requirements to be met by storerooms and receptacles:** 4 °C
- **Information about storage in one common storage facility:** Store away from oxidizing agents.
- **Further information about storage conditions:** Store in cool, dry conditions in well sealed containers.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Components with limit values that require monitoring at the workplace:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Additional information:** The lists that were valid during the creation were used as basis.
- **Personal Protective Equipment**
- **General protective and hygienic measures**
The usual precautionary measures for handling chemicals should be followed.
- **Breathing equipment:** Not required.
- **Protection of hands:**



Chemical resistant gloves (i.e. nitrile, or equivalent).

(Contd. on page 3)

Printing date 04/03/2012

Reviewed on 02/15/2012

Product name: Detection Antibody Biotin Anti-human TNF (51-27242E)

(Contd. of page 2)

- **Eye protection:** Safety glasses
- **Body protection:** Protective work clothing (lab coat).

9 Physical and chemical properties

- **General Information**
- **Appearance:**
 - Form:** Liquid
 - Color:** Clear
- **Odor:** Odorless
- **Odour threshold:** Not determined.
- **pH-value:** 7.2-7.6
- **Change in condition** Undetermined
- **Melting point/Melting range:** Not determined
- **Boiling point/Boiling range:** Not determined
- **Flash point:** Not applicable
- **Flammability (solid, gaseous)** Not applicable.
- **Ignition temperature:**
- **Decomposition temperature:** Not determined.
- **Auto igniting:** Product is not self igniting.
- **Danger of explosion:** Product does not present an explosion hazard.
- **Explosion limits:**
 - Lower:** Not determined.
 - Upper:** Not determined.
- **Vapor pressure:** Not applicable
- **Density:** Not determined
- **Relative density** Not determined.
- **Vapour density** Not determined.
- **Evaporation rate** Not determined.
- **Solubility in / Miscibility with Water:** Not miscible or difficult to mix
- **Segregation coefficient (n-octanol/water):** Not determined.
- **Viscosity:**
 - dynamic:** Not determined.
 - kinematic:** Not determined.
- **Solvent content:**
 - Organic solvents:** 0.0 %
- **Other information** No further relevant information available.

10 Stability and reactivity

- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.

(Contd. on page 4)

Product name: Detection Antibody Biotin Anti-human TNF (51-27242E)

(Contd. of page 3)

- **Incompatible materials:**
Incompatible material: strong oxidizers.
No further relevant information available.
- **Hazardous decomposition products:** *No dangerous decomposition products known.*

11 Toxicological information

- **Acute toxicity:**
- **Primary irritant effect:**
 - **on the skin:** *No irritating effect.*
 - **on the eye:** *No irritating effect.*
- **Sensitization:** *No sensitizing effects known.*
- **Additional toxicological information:**
The product is not subject to OSHA classification according to internally approved calculation methods for preparations.
When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

12 Ecological information

- **Aquatic toxicity:** *No further relevant information available.*
- **Persistence and degradability** *No further relevant information available.*
- **Behavior in environmental systems:**
- **Bioaccumulative potential** *No further relevant information available.*
- **Ecotoxicological effects:**
- **Other information:**
The ecological effects have not been thoroughly investigated, but currently none have been identified.
- **Additional ecological information:**
- **General notes:** *Generally not hazardous for water.*

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation**
Smaller quantities can be disposed of with solid waste.
This product is not considered a RCRA hazardous waste.
Dispose of material in accordance with federal (40 CFR 261), state and local requirements.
- **Uncleaned packagings:**
- **Recommendation:** *Disposal must be made according to state and federal regulations.*
- **Recommended cleansing agent:** *Water, if necessary with cleansing agents.*

14 Transport information

- | | |
|------------------------------------|------|
| · UN-Number | |
| · DOT, ADR, ADN, IMDG, IATA | Void |
| · UN proper shipping name | |
| · DOT, ADR, ADN, IMDG, IATA | Void |

(Contd. on page 5)

Printing date 04/03/2012

Reviewed on 02/15/2012

Product name: Detection Antibody Biotin Anti-human TNF (51-27242E)

(Contd. of page 4)

- | | |
|--|-----------------|
| · Transport hazard class(es) | |
| · DOT, ADR, ADN, IMDG, IATA | |
| · Class | Void |
| · Packing group | |
| · DOT, ADR, IMDG, IATA | Void |
| · Environmental hazards: | |
| · Marine pollutant: | No |
| · Special precautions for user | Not applicable. |
| · Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code | Not applicable. |
| · UN "Model Regulation": | - |

15 Regulatory information

- | |
|--|
| · SARA Section 355 (extremely hazardous substances) |
| None of the ingredients is listed. |
| · SARA Section 313 (specific toxic chemical listings) |
| None of the ingredients is listed. |
| · TSCA (Toxic Substances Control Act) |
| None of the ingredients is listed. |
| · California Proposition 65 - Chemicals known to cause cancer |
| None of the ingredients is listed. |
| · Chemicals known to cause reproductive toxicity for females: |
| None of the ingredients is listed. |
| · Chemicals known to cause reproductive toxicity for males: |
| None of the ingredients is listed. |
| · Chemicals known to cause developmental toxicity: |
| None of the ingredients is listed. |
| · Carcinogenic categories |
| · IARC (International Agency for Research on Cancer) |
| None of the ingredients is listed. |
| · NTP (National Toxicology Program) |
| None of the ingredients is listed. |
| · TLV (Threshold Limit Value established by ACGIH) |
| None of the ingredients is listed. |

- **Product related hazard information:**
 Observe the general safety regulations when handling chemicals
 The product is not subject to identification regulations pertaining to regulations on hazardous materials.

(Contd. on page 6)

Printing date 04/03/2012

Reviewed on 02/15/2012

Product name: Detection Antibody Biotin Anti-human TNF (51-27242E)

(Contd. of page 5)

- **National regulations**
- **Water hazard class:** Generally not hazardous for water.

16 Other information

To the best of our knowledge, the information contained herein is accurate. However, neither Becton, Dickinson and Company or any of its subsidiaries assumes any liabilities whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

- **Department issuing MSDS:** Safety and Environment Department

- **Contact:** Technical Service Representative

- **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

ICAO: International Civil Aviation Organization

ACGIH: American Conference of Governmental Industrial Hygienists

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

USA

1 Identification of the substance/mixture and of the company/undertaking

- **Product identifier**
- **Product name:** Human TNF Standard (51-27246E)
- **Catalog number:** 550610c
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
BD Biosciences, Pharmingen
10975 Torreyana Road
San Diego, CA 92121-1106
Tel. (877)232-8995
- **Information department:** Technical Services
- **Emergency telephone number:**
In case of a chemical emergency, spill, fire, exposure, or accident please call ChemTrec at (800)424-9300 or 911

2 Composition/information on ingredients

- **Chemical characterization:** Substances Mixture of the substances listed below with nonhazardous additions.

3 Hazards identification

- **Classification of the substance or mixture**
The substance is not classified according to the Globally Harmonized System (GHS).
- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**
This product contains no hazardous constituents, or the concentration of all chemical constituents are below the regulatory threshold limits described by Occupational Safety Health Administration Hazard Communication Standard 29 CFR 1910.1200 and the European Directive 91/155/EEC, and 93/112/EC.
- **Label elements**
- **Labelling according to EU guidelines:**
Observe the general safety regulations when handling chemicals
The substance is not subject to classification according to the sources of literature known to us.
The product is not subject to identification regulations pertaining to regulations on hazardous materials.
- **Classification system**
- **NFPA ratings (scale 0-4)**



Health = 0
Flammability = 0
Reactivity = 0

4 First aid measures

- **General information** No special measures required.
- **After inhalation** Seek medical treatment in case of complaints.
- **After skin contact** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact**
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing** If symptoms persist consult doctor.

Product name: Human TNF Standard (51-27246E)

(Contd. of page 1)

5 Firefighting measures

- **Suitable extinguishing agents**
CO₂, ABC multipurpose dry chemical or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Protective equipment:** No special measures required.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:** Wipe up with damp sponge or mop.
- **Methods and material for containment and cleaning up:** No special measures required.
- **Reference to other sections**
No dangerous substances are released.
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

- **Handling**
- **Precautions for safe handling** No special measures required.
- **Information about protection against explosions and fires:** No special measures required.
- **Storage**
- **Requirements to be met by storerooms and receptacles:** 4 C
- **Information about storage in one common storage facility:** Store away from oxidizing agents.
- **Further information about storage conditions:** Store in cool, dry conditions in well sealed containers.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Components with limit values that require monitoring at the workplace:** Not required.
- **Additional information:** The lists that were valid during the creation were used as basis.
- **Personal Protective Equipment**
- **General protective and hygienic measures**
The usual precautionary measures for handling chemicals should be followed.
- **Breathing equipment:** Not required.
- **Protection of hands:**



Chemical resistant gloves (i.e. nitrile, or equivalent).

- **Eye protection:** Safety glasses
- **Body protection:** Protective work clothing (lab coat).

USA

(Contd. on page 3)

Printing date 04/03/2012

Reviewed on 02/15/2012

Product name: Human TNF Standard (51-27246E)

(Contd. of page 2)

9 Physical and chemical properties

· General Information	
· Appearance:	
Form:	Powder
Color:	Whitish
· Odor:	Characteristic
· Odour threshold:	Not determined.
· pH-value:	Not applicable.
· Change in condition	Undetermined
· Melting point/Melting range:	Not determined
· Boiling point/Boiling range:	Not determined
· Flash point:	Not applicable
· Flammability (solid, gaseous)	Product is not flammable.
· Ignition temperature:	
Decomposition temperature:	Not determined.
· Auto igniting:	Not determined.
· Danger of explosion:	Product does not present an explosion hazard.
· Explosion limits:	
Lower:	Not determined.
Upper:	Not determined.
· Vapor pressure:	Not applicable.
· Density:	Not determined
· Relative density	Not determined.
· Vapour density	Not applicable.
· Evaporation rate	Not applicable.
· Solubility in / Miscibility with Water:	Insoluble
· Segregation coefficient (n-octanol/water):	
Not determined.	
· Viscosity:	
dynamic:	Not applicable.
kinematic:	Not applicable.
Organic solvents:	0.0 %
Solids content:	100.0 %
· Other information	No further relevant information available.

10 Stability and reactivity

- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Incompatible materials:**
Incompatible material: strong oxidizers.
No further relevant information available.

(Contd. on page 4)

Product name: Human TNF Standard (51-27246E)· **Hazardous decomposition products:** No dangerous decomposition products known.

(Contd. of page 3)

11 Toxicological information

- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** No irritating effect.
- **on the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**

The product is not subject to OSHA classification according to internally approved calculation methods for preparations.

When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

The substance is not subject to classification.

12 Ecological information

- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Ecotoxicological effects:**
- **Other information:**

The ecological effects have not been thoroughly investigated, but currently none have been identified.

- **Additional ecological information:**
- **General notes:** Generally not hazardous for water.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation**

Smaller quantities can be disposed of with solid waste.

This product is not considered a RCRA hazardous waste.

Dispose of material in accordance with federal (40 CFR 261), state and local requirements.

- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to state and federal regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport information

- **UN-Number**
- **DOT, ADR, ADN, IMDG, IATA** Void

- **UN proper shipping name**
- **DOT, ADR, ADN, IMDG, IATA** Void

(Contd. on page 5)

USA

Printing date 04/03/2012

Reviewed on 02/15/2012

Product name: Human TNF Standard (51-27246E)

(Contd. of page 4)

- | | |
|--|-----------------|
| · Transport hazard class(es) | |
| · DOT, ADR, ADN, IMDG, IATA | |
| · Class | Void |
| · Packing group | |
| · DOT, ADR, IMDG, IATA | Void |
| · Environmental hazards: | |
| · Marine pollutant: | No |
| · Special precautions for user | Not applicable. |
| · Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code | Not applicable. |
| · UN "Model Regulation": | - |

15 Regulatory information

- | |
|--|
| · SARA Section 355 (extremely hazardous substances) |
| Substance is not listed. |
| · SARA Section 313 (specific toxic chemical listings) |
| Substance is not listed. |
| · TSCA (Toxic Substances Control Act) |
| Substance is not listed. |
| · California Proposition 65 - Chemicals known to cause cancer |
| Substance is not listed. |
| · Chemicals known to cause reproductive toxicity for females: |
| Substance is not listed. |
| · Chemicals known to cause reproductive toxicity for males: |
| Substance is not listed. |
| · Chemicals known to cause developmental toxicity: |
| Substance is not listed. |
| · Carcinogenic categories |
| · IARC (International Agency for Research on Cancer) |
| Substance is not listed. |
| · NTP (National Toxicology Program) |
| Substance is not listed. |
| · TLV (Threshold Limit Value established by ACGIH) |
| Substance is not listed. |

- **Product related hazard information:**
Observe the general safety regulations when handling chemicals
The substance is not subject to classification according to the sources of literature known to us.
The product is not subject to identification regulations pertaining to regulations on hazardous materials.

(Contd. on page 6)

Printing date 04/03/2012

Reviewed on 02/15/2012

Product name: Human TNF Standard (51-27246E)

(Contd. of page 5)

- **National regulations**
- **Water hazard class:** Generally not hazardous for water.

16 Other information

To the best of our knowledge, the information contained herein is accurate. However, neither Becton, Dickinson and Company or any of its subsidiaries assumes any liabilities whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

- **Department issuing MSDS:** Safety and Environment Department
- **Contact:** Technical Service Representative
- **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

ICAO: International Civil Aviation Organization

ACGIH: American Conference of Governmental Industrial Hygienists

NFPA: National Fire Protection Association (USA)

USA

1 Identification of the substance/mixture and of the company/undertaking

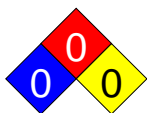
- **Product identifier**
- **Product name:** Enzyme Concentrate Streptavidin -HRP (51-9002833)
- **Catalog number:** 550610d
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
BD Biosciences, Pharmingen
10975 Torreyana Road
San Diego, CA 92121-1106
Tel. (877)232-8995
- **Information department:** Technical Services
- **Emergency telephone number:**
In case of a chemical emergency, spill, fire, exposure, or accident please call ChemTrec at (800)424-9300 or 911

2 Composition/information on ingredients

- **Chemical characterization:** Mixtures
- **Description:** Mixture of the substances listed below with nonhazardous additions.
- | CAS NO. | Description | % Void |
|---------|-------------|--------|
|---------|-------------|--------|

3 Hazards identification

- **Classification of the substance or mixture**
The product is not classified according to the Globally Harmonized System (GHS).
- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**
This product contains no hazardous constituents, or the concentration of all chemical constituents are below the regulatory threshold limits described by Occupational Safety Health Administration Hazard Communication Standard 29 CFR 1910.1200 and the European Directive 91/155/EEC, and 93/112/EC.
- **Void**
- **Classification system:**
The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.
- **Label elements**
- **Labelling according to EU guidelines:**
Observe the general safety regulations when handling chemicals
The product is not subject to identification regulations pertaining to regulations on hazardous materials.
- **Classification system**
- **NFPA ratings (scale 0-4)**



Health = 0
Flammability = 0
Reactivity = 0

4 First aid measures

- **General information** No special measures required.
- **After inhalation** Seek medical treatment in case of complaints.
- **After skin contact** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact**
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

(Contd. on page 2)

Product name: Enzyme Concentrate Streptavidin -HRP (51-9002833)

(Contd. of page 1)

· **After swallowing** If symptoms persist consult doctor.

5 Firefighting measures

- **Suitable extinguishing agents**
CO₂, ABC multipurpose dry chemical or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Protective equipment:** No special measures required.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:** Wipe up with damp sponge or mop.
- **Methods and material for containment and cleaning up:** No special measures required.
- **Reference to other sections**
No dangerous substances are released.
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

- **Handling**
- **Precautions for safe handling** No special measures required.
- **Information about protection against explosions and fires:** No special measures required.
- **Storage**
- **Requirements to be met by storerooms and receptacles:** 4 °C
- **Information about storage in one common storage facility:** Store away from oxidizing agents.
- **Further information about storage conditions:** Store in cool, dry conditions in well sealed containers.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Components with limit values that require monitoring at the workplace:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Additional information:** The lists that were valid during the creation were used as basis.
- **Personal Protective Equipment**
- **General protective and hygienic measures**
The usual precautionary measures for handling chemicals should be followed.
- **Breathing equipment:** Not required.
- **Protection of hands:**



Chemical resistant gloves (i.e. nitrile, or equivalent).

(Contd. on page 3)

USA

Printing date 04/03/2012

Reviewed on 02/15/2012

Product name: Enzyme Concentrate Streptavidin -HRP (51-9002833)

(Contd. of page 2)

- **Eye protection:** Safety glasses
- **Body protection:** Protective work clothing (lab coat).

9 Physical and chemical properties

- **General Information**
- **Appearance:**
 - Form:** Liquid
 - Color:** Light brown
- **Odor:** Characteristic
- **Odour threshold:** Not determined.
- **pH-value:** 7.2-7.6
- **Change in condition** Undetermined
- **Melting point/Melting range:** Not determined
- **Boiling point/Boiling range:** Not determined
- **Flash point:** Not applicable
- **Flammability (solid, gaseous)** Not applicable.
- **Ignition temperature:**
- **Decomposition temperature:** Not determined.
- **Auto igniting:** Product is not self igniting.
- **Danger of explosion:** Product does not present an explosion hazard.
- **Explosion limits:**
 - Lower:** Not determined.
 - Upper:** Not determined.
- **Vapor pressure at 20°C (68 °F):** 23 hPa (17 mm Hg)
- **Density:** Not determined
- **Relative density** Not determined.
- **Vapour density** Not determined.
- **Evaporation rate** Not determined.
- **Solubility in / Miscibility with**
 - Water:** Not miscible or difficult to mix
- **Segregation coefficient (n-octanol/water):** Not determined.
- **Viscosity:**
 - dynamic:** Not determined.
 - kinematic:** Not determined.
- **Solvent content:**
 - Organic solvents:** 0.0 %
 - Water:** 73.8 %
- **Other information** No further relevant information available.

10 Stability and reactivity

- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.

(Contd. on page 4)

Product name: Enzyme Concentrate Streptavidin -HRP (51-9002833)

(Contd. of page 3)

- **Incompatible materials:**
Incompatible material: strong oxidizers.
No further relevant information available.
- **Hazardous decomposition products:** *No dangerous decomposition products known.*

11 Toxicological information

- **Acute toxicity:**
- **Primary irritant effect:**
 - **on the skin:** *No irritating effect.*
 - **on the eye:** *No irritating effect.*
- **Sensitization:** *No sensitizing effects known.*
- **Additional toxicological information:**
The product is not subject to OSHA classification according to internally approved calculation methods for preparations.
When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

12 Ecological information

- **Aquatic toxicity:** *No further relevant information available.*
- **Persistence and degradability** *No further relevant information available.*
- **Behavior in environmental systems:**
- **Bioaccumulative potential** *No further relevant information available.*
- **Ecotoxicological effects:**
- **Other information:**
The ecological effects have not been thoroughly investigated, but currently none have been identified.
- **Additional ecological information:**
- **General notes:** *Water hazard class 1 (Self-assessment): slightly hazardous for water.*

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation**
Smaller quantities can be disposed of with solid waste.
This product is not considered a RCRA hazardous waste.
Dispose of material in accordance with federal (40 CFR 261), state and local requirements.
- **Uncleaned packagings:**
- **Recommendation:** *Disposal must be made according to state and federal regulations.*
- **Recommended cleansing agent:** *Water, if necessary with cleansing agents.*

14 Transport information

- | | |
|------------------------------------|------|
| · UN-Number | |
| · DOT, ADR, ADN, IMDG, IATA | Void |
| · UN proper shipping name | |
| · DOT, ADR, ADN, IMDG, IATA | Void |

(Contd. on page 5)

**Material Safety Data Sheet**
acc. to ISO/11014:2009

Printing date 04/03/2012

Reviewed on 02/15/2012

Product name: Enzyme Concentrate Streptavidin -HRP (51-9002833)

(Contd. of page 4)

- | | |
|--|-----------------|
| · Transport hazard class(es) | |
| · DOT, ADR, ADN, IMDG, IATA | |
| · Class | Void |
| · Packing group | |
| · DOT, ADR, IMDG, IATA | Void |
| · Environmental hazards: | |
| · Marine pollutant: | No |
| · Special precautions for user | Not applicable. |
| · Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code | Not applicable. |
| · UN "Model Regulation": | - |

15 Regulatory information

- | | |
|--|---------------------------------|
| · SARA Section 355 (extremely hazardous substances) | |
| None of the ingredients is listed. | |
| · SARA Section 313 (specific toxic chemical listings) | |
| None of the ingredients is listed. | |
| · TSCA (Toxic Substances Control Act) | |
| 9048-46-8 | BSA |
| 7647-14-5 | sodium chloride |
| 1405-10-3 | Neomycin, sulfate (salt) |
| 7558-79-4 | disodium hydrogenorthophosphate |
| 7778-77-0 | potassium phosphate, monobasic |
| 7447-40-7 | potassium chloride |
| 7732-18-5 | water |
| · California Proposition 65 - Chemicals known to cause cancer | |
| None of the ingredients is listed. | |
| · Chemicals known to cause reproductive toxicity for females: | |
| None of the ingredients is listed. | |
| · Chemicals known to cause reproductive toxicity for males: | |
| None of the ingredients is listed. | |
| · Chemicals known to cause developmental toxicity: | |
| 1405-10-3 | Neomycin, sulfate (salt) |
| · Carcinogenic categories | |
| · IARC (International Agency for Research on Cancer) | |
| None of the ingredients is listed. | |
| · NTP (National Toxicology Program) | |
| None of the ingredients is listed. | |

(Contd. on page 6)



Material Safety Data Sheet

acc. to ISO/11014:2009

Printing date 04/03/2012

Reviewed on 02/15/2012

Product name: Enzyme Concentrate Streptavidin -HRP (51-9002833)

(Contd. of page 5)

· TLV (Threshold Limit Value established by ACGIH)

None of the ingredients is listed.

· Product related hazard information:

Observe the general safety regulations when handling chemicals

The product is not subject to identification regulations pertaining to regulations on hazardous materials.

16 Other information

To the best of our knowledge, the information contained herein is accurate. However, neither Becton, Dickinson and Company or any of its subsidiaries assumes any liabilities whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

· Department issuing MSDS: Safety and Environment Department**· Contact:** Technical Service Representative**· Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

ICAO: International Civil Aviation Organization

ACGIH: American Conference of Governmental Industrial Hygienists

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

USA

Printing date 04/03/2012













Reviewed on 02/15/2012

1 Identification of the substance/mixture and of the company/undertaking

- **Product identifier**
- **Product name:** Wash Concentrate (20X) (51-9003738)
- **Catalog number:** 550610e
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
 BD Biosciences, Pharmingen
 10975 Torreyana Road
 San Diego, CA 92121-1106
 Tel. (877)232-8995
- **Information department:** Technical Services
- **Emergency telephone number:**
 In case of a chemical emergency, spill, fire, exposure, or accident please call ChemTrec at (800)424-9300 or 911

2 Composition/information on ingredients

- **Chemical characterization:** Mixtures
- **Description:** Mixture of the substances listed below with nonhazardous additions.

CAS NO.	Description	%
7647-14-5	sodium chloride  Xi R36/37/38  H315; H319; H335 H303	14.5%
7558-79-4	disodium hydrogenorthophosphate  Xi R37  H335	2.1%
55965-84-9	mixture of: 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) mixture of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-4-isothiazolin-3-one [EC no. 220-239-6] (3:1)  T R23/24/25  C R34  Xi R43  N R50/53  H301; H311; H331  H314  H400; H410  H317	0.01%

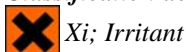
3 Hazards identification

- **Classification of the substance or mixture**



- H315 Causes skin irritation.
 H319 Causes serious eye irritation.
 H317 May cause an allergic skin reaction.

- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**



R36/37/38-43: Irritating to eyes, respiratory system and skin. May cause sensitization by skin contact.

(Contd. on page 2)

Printing date 04/03/2012

Reviewed on 02/15/2012

Product name: Wash Concentrate (20X) (51-9003738)

(Contd. of page 1)

· **Classification system:**

The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.

· **Label elements**

· **Labelling according to EU guidelines:**

The product has been classified and marked in accordance with regulations on hazardous materials.

· **Code letter and hazard designation of product:**

Xi Irritant

· **Hazard-determining components of labelling:**

mixture of: 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) mixture of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-4-isothiazolin-3-one [EC no. 220-239-6] (3:1)

· **Risk phrases:**

36/37/38 Irritating to eyes, respiratory system and skin.

43 May cause sensitization by skin contact.

· **Safety phrases:**

7 Keep container tightly closed.

23 Do not breathe gas/fumes/vapour/spray.

24 Avoid contact with skin.

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

37 Wear suitable gloves.

60 This material and its container must be disposed of as hazardous waste.

· **Classification system**

· **NFPA ratings (scale 0-4)**



Health = 1

Flammability = 0

Reactivity = 0

4 First aid measures

· **General information**

Symptoms of poisoning may even occur after several hours; therefore provide medical observation for at least 48 hours after the accident.

· **After inhalation**

Supply fresh air and seek medical advice.

In case of unconsciousness place patient on side position for transportation.

· **After skin contact** Immediately wash with water and soap and rinse thoroughly.

· **After eye contact** Rinse opened eye for several minutes under running water.

· **After swallowing** Seek immediate medical advice.

5 Firefighting measures

· **Suitable extinguishing agents**

CO₂, ABC multipurpose dry chemical or water spray. Fight larger fires with water spray or alcohol resistant foam.

· **Special hazards arising from the substance or mixture** No further relevant information available.

(Contd. on page 3)

Printing date 04/03/2012

Reviewed on 02/15/2012

Product name: Wash Concentrate (20X) (51-9003738)

(Contd. of page 2)

· **Protective equipment:** No special measures required.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:** Wipe up with damp sponge or mop.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders).
Ensure adequate ventilation.
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

- **Handling**
- **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
- **Information about protection against explosions and fires:** No special measures required.
- **Storage**
- **Requirements to be met by storerooms and receptacles:** 2-8 C
- **Information about storage in one common storage facility:** Store away from oxidizing agents.
- **Further information about storage conditions:** Store in cool, dry conditions in well sealed containers.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Components with limit values that require monitoring at the workplace:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Additional information:** The lists that were valid during the creation were used as basis.
- **Personal Protective Equipment**
- **General protective and hygienic measures**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.
- **Breathing equipment:** Not required.
- **Protection of hands:**



Chemical resistant gloves (i.e. nitrile, or equivalent).

- **Eye protection:** Safety glasses

(Contd. on page 4)

Printing date 04/03/2012

Reviewed on 02/15/2012

Product name: Wash Concentrate (20X) (51-9003738)

(Contd. of page 3)

· **Body protection:** Protective work clothing (lab coat).

9 Physical and chemical properties

· **General Information**

· **Appearance:**

Form:	Liquid
Color:	Clear
Odor:	Odorless
Odour threshold:	Not determined.

· **pH-value at 20°C (68 °F):** 7.2

· **Change in condition**

Melting point/Melting range:	Not determined
Boiling point/Boiling range:	100°C (212 °F)

· **Flash point:** Not applicable

· **Flammability (solid, gaseous)** Not applicable.

· **Ignition temperature:**

· **Decomposition temperature:** Not determined.

· **Auto igniting:** Product is not self igniting.

· **Danger of explosion:** Product does not present an explosion hazard.

· **Explosion limits:**

Lower:	Not determined.
Upper:	Not determined.

· **Vapor pressure at 20°C (68 °F):** 23 hPa (17 mm Hg)

Density:	Not determined
Relative density	Not determined.
Vapour density	Not determined.
Evaporation rate	Not determined.

· **Solubility in / Miscibility with**

· **Water:** Not miscible or difficult to mix

· **Segregation coefficient (n-octanol/water):** Not determined.

· **Viscosity:**

dynamic:	Not determined.
kinematic:	Not determined.

· **Solvent content:**

Organic solvents:	0.0 %
Water:	81.7 %

· **Solids content:** 17.0 %

· **Other information** No further relevant information available.

USA

(Contd. on page 5)

Product name: Wash Concentrate (20X) (51-9003738)

(Contd. of page 4)

10 Stability and reactivity

- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Incompatible materials:** Incompatible material: strong oxidizers.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- **Acute toxicity:**
- **Primary irritant effect:**
 - **on the skin:** Irritant to skin and mucous membranes.
 - **on the eye:** Irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**
The product shows the following dangers according to internally approved calculation methods for preparations:
Irritant

12 Ecological information

- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Ecotoxicological effects:**
- **Other information:**
The ecological effects have not been thoroughly investigated, but currently none have been identified.
- **Additional ecological information:**
- **General notes:** Water hazard class 1 (Self-assessment): slightly hazardous for water.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation**
Must not be disposed of with solid waste.
Dispose of material in accordance with federal (40 CFR 261), state and local requirements.
This product is not considered a RCRA hazardous waste.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to state and federal regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport information

- | | |
|------------------------------------|------|
| · UN-Number | |
| · DOT, ADR, ADN, IMDG, IATA | Void |
| · UN proper shipping name | |
| · DOT, ADR, ADN, IMDG, IATA | Void |

(Contd. on page 6)

**Material Safety Data Sheet**
acc. to ISO/11014:2009

Printing date 04/03/2012

Reviewed on 02/15/2012

Product name: Wash Concentrate (20X) (51-9003738)

(Contd. of page 5)

- | | |
|--|-----------------|
| · Transport hazard class(es) | |
| · DOT, ADR, ADN, IMDG, IATA | |
| · Class | Void |
| · Packing group | |
| · DOT, ADR, IMDG, IATA | Void |
| · Environmental hazards: | |
| · Marine pollutant: | No |
| · Special precautions for user | Not applicable. |
| · Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code | Not applicable. |
| · UN "Model Regulation": | - |

15 Regulatory information

- | |
|--|
| · SARA Section 355 (extremely hazardous substances) |
| None of the ingredients is listed. |
| · SARA Section 313 (specific toxic chemical listings) |
| None of the ingredients is listed. |
| · TSCA (Toxic Substances Control Act) |
| 7647-14-5 sodium chloride |
| 7558-79-4 disodium hydrogenorthophosphate |
| 9005-64-5 Polyoxethylenesorbitan Monolaurate (Tween-20) |
| 7778-77-0 potassium phosphate, monobasic |
| 7447-40-7 potassium chloride |
| 10377-60-3 Magnesium Nitrate |
| 7786-30-3 Magnesium Chloride |
| 7732-18-5 water |
| · California Proposition 65 - Chemicals known to cause cancer |
| None of the ingredients is listed. |
| · Chemicals known to cause reproductive toxicity for females: |
| None of the ingredients is listed. |
| · Chemicals known to cause reproductive toxicity for males: |
| None of the ingredients is listed. |
| · Chemicals known to cause developmental toxicity: |
| None of the ingredients is listed. |
| · Carcinogenic categories |
| · IARC (International Agency for Research on Cancer) |
| None of the ingredients is listed. |
| · NTP (National Toxicology Program) |
| None of the ingredients is listed. |

(Contd. on page 7)

Product name: Wash Concentrate (20X) (51-9003738)

(Contd. of page 6)

· TLV (Threshold Limit Value established by ACGIH)

None of the ingredients is listed.

· Product related hazard information:

The product has been classified and marked in accordance with regulations on hazardous materials.

· Hazard symbols:

Xi Irritant

· Hazard-determining components of labeling:

mixture of: 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) mixture of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-4-isothiazolin-3-one [EC no. 220-239-6] (3:1)

· Risk phrases:

36/37/38 Irritating to eyes, respiratory system and skin.

43 May cause sensitization by skin contact.

· Safety phrases:

7 Keep container tightly closed.

23 Do not breathe gas/fumes/vapour/spray.

24 Avoid contact with skin.

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

37 Wear suitable gloves.

60 This material and its container must be disposed of as hazardous waste.

16 Other information

To the best of our knowledge, the information contained herein is accurate. However, neither Becton, Dickinson and Company or any of its subsidiaries assumes any liabilities whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

· Department issuing MSDS: Safety and Environment Department**· Contact: Technical Service Representative****· Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

ICAO: International Civil Aviation Organization

ACGIH: American Conference of Governmental Industrial Hygienists

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

1 Identification of the substance/mixture and of the company/undertaking

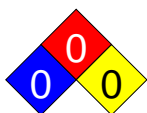
- **Product identifier**
- **Product name:** TMB One-Step Substrate Reagent (51-2709KD)
- **Catalog number:** 550610f
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
BD Biosciences, Pharmingen
10975 Torreyana Road
San Diego, CA 92121-1106
Tel. (877)232-8995
- **Information department:** Technical Services
- **Emergency telephone number:**
In case of a chemical emergency, spill, fire, exposure, or accident please call ChemTrec at (800)424-9300 or 911

2 Composition/information on ingredients

- **Chemical characterization:** Substances Mixture of the substances listed below with nonhazardous additions.

3 Hazards identification

- **Classification of the substance or mixture**
The substance is not classified according to the Globally Harmonized System (GHS).
- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**
This product contains no hazardous constituents, or the concentration of all chemical constituents are below the regulatory threshold limits described by Occupational Safety Health Administration Hazard Communication Standard 29 CFR 1910.1200 and the European Directive 91/155/EEC, and 93/112/EC.
- Void
- **Label elements**
- **Labelling according to EU guidelines:**
Observe the general safety regulations when handling chemicals
The substance is not subject to classification according to the sources of literature known to us.
The product is not subject to identification regulations pertaining to regulations on hazardous materials.
- **Classification system**
- **NFPA ratings (scale 0-4)**



Health = 0
Flammability = 0
Reactivity = 0

4 First aid measures

- **General information** No special measures required.
- **After inhalation** Seek medical treatment in case of complaints.
- **After skin contact** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact**
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing** If symptoms persist consult doctor.

Product name: TMB One-Step Substrate Reagent (51-2709KD)

(Contd. of page 1)

5 Firefighting measures

- **Suitable extinguishing agents**
CO₂, ABC multipurpose dry chemical or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Protective equipment:** No special measures required.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:** Wipe up with damp sponge or mop.
- **Methods and material for containment and cleaning up:** No special measures required.
- **Reference to other sections**
No dangerous substances are released.
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

- **Handling**
- **Precautions for safe handling** No special measures required.
- **Information about protection against explosions and fires:** No special measures required.
- **Storage**
- **Requirements to be met by storerooms and receptacles:** 4 C
- **Information about storage in one common storage facility:** Store away from oxidizing agents.
- **Further information about storage conditions:** Store in cool, dry conditions in well sealed containers.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Components with limit values that require monitoring at the workplace:** Not required.
- **Additional information:** The lists that were valid during the creation were used as basis.
- **Personal Protective Equipment**
- **General protective and hygienic measures**
The usual precautionary measures for handling chemicals should be followed.
- **Breathing equipment:** Not required.
- **Protection of hands:**



Chemical resistant gloves (i.e. nitrile, or equivalent).

- **Eye protection:** Safety glasses
- **Body protection:** Protective work clothing (lab coat).

USA

(Contd. on page 3)

Printing date 04/03/2012

Reviewed on 02/15/2012

Product name: TMB One-Step Substrate Reagent (51-2709KD)

(Contd. of page 2)

9 Physical and chemical properties

· General Information	
· Appearance:	
Form:	Liquid
Color:	Clear Light yellow
· Odor:	Characteristic
· Odour threshold:	Not determined.
· pH-value:	7.2-7.6
· Change in condition	Undetermined
· Melting point/Melting range:	Not determined
· Boiling point/Boiling range:	Not determined
· Flash point:	Not applicable
· Flammability (solid, gaseous)	Not applicable.
· Ignition temperature:	
Decomposition temperature:	Not determined.
· Auto igniting:	Not determined.
· Danger of explosion:	Product does not present an explosion hazard.
· Explosion limits:	
Lower:	Not determined.
Upper:	Not determined.
· Vapor pressure:	Not applicable
· Density:	Not determined
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with	
Water:	Not miscible or difficult to mix
· Segregation coefficient (n-octanol/water):	
Not determined.	
· Viscosity:	
dynamic:	Not determined.
kinematic:	Not determined.
Organic solvents:	0.0 %
· Other information	No further relevant information available.

10 Stability and reactivity

- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Incompatible materials:**
Incompatible material: strong oxidizers.
No further relevant information available.

(Contd. on page 4)

Product name: TMB One-Step Substrate Reagent (51-2709KD)

(Contd. of page 3)

· **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- **Acute toxicity:**
- **Primary irritant effect:**
 - **on the skin:** No irritating effect.
 - **on the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**

The product is not subject to OSHA classification according to internally approved calculation methods for preparations.

When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

The substance is not subject to classification.

12 Ecological information

- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability:** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential:** No further relevant information available.
- **Ecotoxicological effects:**
- **Other information:**

The ecological effects have not been thoroughly investigated, but currently none have been identified.
- **Additional ecological information:**
- **General notes:** Generally not hazardous for water.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation**

Smaller quantities can be disposed of with solid waste.

This product is not considered a RCRA hazardous waste.

Dispose of material in accordance with federal (40 CFR 261), state and local requirements.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to state and federal regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport information

- | | |
|------------------------------------|------|
| · UN-Number | |
| · DOT, ADR, ADN, IMDG, IATA | Void |
| · UN proper shipping name | |
| · DOT, ADR, ADN, IMDG, IATA | Void |

(Contd. on page 5)

USA

Printing date 04/03/2012

Reviewed on 02/15/2012

Product name: TMB One-Step Substrate Reagent (51-2709KD)

(Contd. of page 4)

- | | |
|--|-----------------|
| · Transport hazard class(es) | |
| · DOT, ADR, ADN, IMDG, IATA | |
| · Class | Void |
| · Packing group | |
| · DOT, ADR, IMDG, IATA | Void |
| · Environmental hazards: | |
| · Marine pollutant: | No |
| · Special precautions for user | Not applicable. |
| · Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code | Not applicable. |
| · UN "Model Regulation": | - |

15 Regulatory information

- | |
|--|
| · SARA Section 355 (extremely hazardous substances) |
| Substance is not listed. |
| · SARA Section 313 (specific toxic chemical listings) |
| Substance is not listed. |
| · TSCA (Toxic Substances Control Act) |
| Substance is not listed. |
| · California Proposition 65 - Chemicals known to cause cancer |
| Substance is not listed. |
| · Chemicals known to cause reproductive toxicity for females: |
| Substance is not listed. |
| · Chemicals known to cause reproductive toxicity for males: |
| Substance is not listed. |
| · Chemicals known to cause developmental toxicity: |
| Substance is not listed. |
| · Carcinogenic categories |
| · IARC (International Agency for Research on Cancer) |
| Substance is not listed. |
| · NTP (National Toxicology Program) |
| Substance is not listed. |
| · TLV (Threshold Limit Value established by ACGIH) |
| Substance is not listed. |

- **Product related hazard information:**
Observe the general safety regulations when handling chemicals
The substance is not subject to classification according to the sources of literature known to us.
The product is not subject to identification regulations pertaining to regulations on hazardous materials.

(Contd. on page 6)

Printing date 04/03/2012

Reviewed on 02/15/2012

Product name: TMB One-Step Substrate Reagent (51-2709KD)

(Contd. of page 5)

- **National regulations**
- **Water hazard class:** Generally not hazardous for water.

16 Other information

To the best of our knowledge, the information contained herein is accurate. However, neither Becton, Dickinson and Company or any of its subsidiaries assumes any liabilities whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

- **Department issuing MSDS:** Safety and Environment Department
- **Contact:** Technical Service Representative
- **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

ICAO: International Civil Aviation Organization

ACGIH: American Conference of Governmental Industrial Hygienists

NFPA: National Fire Protection Association (USA)

USA

Printing date 04/03/2012

Reviewed on 04/03/2012

1 Identification of the substance/mixture and of the company/undertaking

- **Product identifier**
- **Product name:** Stop Solution (51-2608KC)
- **Catalog number:** 550610g
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
BD Biosciences, Pharmingen
10975 Torreyana Road
San Diego, CA 92121-1106
Tel. (877)232-8995
- **Information department:** Technical Services
- **Emergency telephone number:**
In case of a chemical emergency, spill, fire, exposure, or accident please call ChemTrec at (800)424-9300 or 911

2 Composition/information on ingredients

- **Chemical characterization:** Mixtures
- **Description:** Mixture of the substances listed below with nonhazardous additions.

CAS NO.	Description	%
7664-38-2	phosphoric acid	15.23%



3 Hazards identification

- **Classification of the substance or mixture**



GHS05 Corrosion

H314 Causes severe skin burns and eye damage.



GHS07

H319 Causes serious eye irritation.

- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**



Xi; Irritant

R36/38: Irritating to eyes and skin.

- **Classification system:**

The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.

- **Label elements**

- **Labelling according to EU guidelines:**

The product has been classified and marked in accordance with regulations on hazardous materials.

- **Code letter and hazard designation of product:**

Xi Irritant

- **Risk phrases:**

36/38 Irritating to eyes and skin.

(Contd. on page 2)

USA

Product name: Stop Solution (51-2608KC)

(Contd. of page 1)

· Safety phrases:

- 23 Do not breathe gas/fumes/vapour/spray.
- 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- 37 Wear suitable gloves.
- 45 In case of accident or if you feel unwell, seek medical advice immediately.
- 60 This material and its container must be disposed of as hazardous waste.

· Classification system**· NFPA ratings (scale 0-4)**

Health = 1

Flammability = 0

Reactivity = 0

4 First aid measures**· General information**

Symptoms of poisoning may even occur after several hours; therefore provide medical observation for at least 48 hours after the accident.

- **After skin contact** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact** Rinse opened eye for several minutes under running water.
- **After swallowing** Seek immediate medical advice.

5 Firefighting measures**· Suitable extinguishing agents**

CO₂, ABC multipurpose dry chemical or water spray. Fight larger fires with water spray or alcohol resistant foam.

- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Protective equipment:** No special measures required.

6 Accidental release measures**· Personal precautions, protective equipment and emergency procedures** Not required.**· Environmental precautions:** Wipe up with damp sponge or mop.**· Methods and material for containment and cleaning up:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders).

Ensure adequate ventilation.

· Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

7 Handling and storage**· Handling****· Precautions for safe handling**

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

(Contd. on page 3)

Printing date 04/03/2012

Reviewed on 04/03/2012

Product name: Stop Solution (51-2608KC)

(Contd. of page 2)

- **Information about protection against explosions and fires:** No special measures required.
- **Storage**
- **Requirements to be met by storerooms and receptacles:** 4 C
- **Information about storage in one common storage facility:** Store away from oxidizing agents.
- **Further information about storage conditions:** Store in cool, dry conditions in well sealed containers.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.

- **Components with limit values that require monitoring at the workplace:**

7664-38-2 phosphoric acid

PEL	1 mg/m ³
REL	Short-term value: 3 mg/m ³ Long-term value: 1 mg/m ³
TLV	Short-term value: 3 mg/m ³ Long-term value: 1 mg/m ³

- **Additional information:** The lists that were valid during the creation were used as basis.
- **Personal Protective Equipment**
- **General protective and hygienic measures**
 Keep away from foodstuffs, beverages and feed.
 Immediately remove all soiled and contaminated clothing.
 Wash hands before breaks and at the end of work.
 Avoid contact with the eyes and skin.
- **Breathing equipment:** Not required.
- **Protection of hands:**



Chemical resistant gloves (i.e. nitrile, or equivalent).

- **Eye protection:** Safety glasses
- **Body protection:** Protective work clothing (lab coat).

9 Physical and chemical properties

- **General Information**

- **Appearance:**

Form:	Liquid
Color:	Clear
Odor:	Odorless
Odour threshold:	Not determined.

- **pH-value at 20°C (68 °F):** 2

- **Change in condition**

Melting point/Melting range:	Not determined
Boiling point/Boiling range:	100°C (212 °F)

- **Flash point:** Not applicable

(Contd. on page 4)

Printing date 04/03/2012

Reviewed on 04/03/2012

Product name: Stop Solution (51-2608KC)

(Contd. of page 3)

· Flammability (solid, gaseous)	Not applicable.
· Ignition temperature:	
Decomposition temperature:	Not determined.
· Auto igniting:	Product is not self igniting.
· Danger of explosion:	Product does not present an explosion hazard.
· Explosion limits:	
Lower:	Not determined.
Upper:	Not determined.
· Vapor pressure at 20°C (68 °F):	23 hPa (17 mm Hg)
· Density at 20°C (68 °F):	1.13402 g/cm ³ (9.463 lbs/gal)
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with Water:	Soluble
· Segregation coefficient (n-octanol/water):	Not determined.
· Viscosity:	
dynamic:	Not determined.
kinematic:	Not determined.
· Solvent content:	
Organic solvents:	0.0 %
Water:	84.8 %
Solids content:	15.2 %
· Other information	No further relevant information available.

10 Stability and reactivity

- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Incompatible materials:** Incompatible material: strong oxidizers.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**
The product shows the following dangers according to internally approved calculation methods for preparations:
Irritant

USA

(Contd. on page 5)

Printing date 04/03/2012

Reviewed on 04/03/2012

Product name: Stop Solution (51-2608KC)

(Contd. of page 4)



12 Ecological information

- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Ecotoxical effects:**
- **Other information:**
The ecological effects have not been thoroughly investigated, but currently none have been identified.
- **Additional ecological information:**
- **General notes:** Water hazard class 1 (Self-assessment): slightly hazardous for water.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation**
Must not be disposed of with solid waste.
Dispose of material in accordance with federal (40 CFR 261), state and local requirements.
This product is not considered a RCRA hazardous waste.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to state and federal regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport information

- | | |
|---|--------------------------------|
| · UN-Number | |
| · DOT, ADR, IMDG, IATA | UN1805 |
| · UN proper shipping name | |
| · DOT, IMDG, IATA | PHOSPHORIC ACID, SOLUTION |
| · ADR | 1805 PHOSPHORIC ACID, SOLUTION |
| · Transport hazard class(es) | |
| · DOT, IMDG, IATA | |
|  | |
| · Class | 8 Corrosive substances. |
| · Label | 8 |
| · ADR | |
|  | |
| · Class | 8 (C1) Corrosive substances |
| · Label | 8 |

(Contd. on page 6)

Product name: Stop Solution (51-2608KC)

(Contd. of page 5)

· Packing group	
· DOT, ADR, IMDG, IATA	III
· Environmental hazards:	
· Marine pollutant:	No
· Special precautions for user	Warning: Corrosive substances
· Danger code (Kemler):	80
· EMS Number:	F-A,S-B
· Segregation groups	Acids
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· UN "Model Regulation":	UN1805, PHOSPHORIC ACID, SOLUTION, 8, III

15 Regulatory information

· **SARA Section 355 (extremely hazardous substances)**

None of the ingredients is listed.

· **SARA Section 313 (specific toxic chemical listings)**

7664-38-2 phosphoric acid

· **TSCA (Toxic Substances Control Act)**

All ingredients are listed.

· **California Proposition 65 - Chemicals known to cause cancer**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

· **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**

None of the ingredients is listed.

· **NTP (National Toxicology Program)**

None of the ingredients is listed.

· **TLV (Threshold Limit Value established by ACGIH)**

None of the ingredients is listed.

· **Product related hazard information:**

The product has been classified and marked in accordance with regulations on hazardous materials.

· **Hazard symbols:**

Xi Irritant

· **Risk phrases:**

36/38 Irritating to eyes and skin.

(Contd. on page 7)

Product name: Stop Solution (51-2608KC)

(Contd. of page 6)

· Safety phrases:

- 23 Do not breathe gas/fumes/vapour/spray.
- 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- 37 Wear suitable gloves.
- 45 In case of accident or if you feel unwell, seek medical advice immediately.
- 60 This material and its container must be disposed of as hazardous waste.

· National regulations

- Water hazard class:** Water hazard class 1 (Self-assessment): slightly hazardous for water.

16 Other information

To the best of our knowledge, the information contained herein is accurate. However, neither Becton, Dickinson and Company or any of its subsidiaries assumes any liabilities whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

- Department issuing MSDS:** Safety and Environment Department

- Contact:** Technical Service Representative

· Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

ICAO: International Civil Aviation Organization

ACGIH: American Conference of Governmental Industrial Hygienists

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

Printing date 04/03/2012

Reviewed on 02/15/2012

1 Identification of the substance/mixture and of the company/undertaking

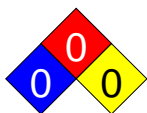
- **Product identifier**
- **Product name:** Standard/Sample Diluent (51-2708KD)
- **Catalog number:** 550610h
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
BD Biosciences, Pharmingen
10975 Torreyana Road
San Diego, CA 92121-1106
Tel. (877)232-8995
- **Information department:** Technical Services
- **Emergency telephone number:**
In case of a chemical emergency, spill, fire, exposure, or accident please call ChemTrec at (800)424-9300 or 911

2 Composition/information on ingredients

- **Chemical characterization:** Mixtures
- **Description:** Mixture of the substances listed below with nonhazardous additions.
- | | | |
|----------------|--------------------|---------------|
| CAS NO. | Description | % Void |
|----------------|--------------------|---------------|

3 Hazards identification

- **Classification of the substance or mixture**
The product is not classified according to the Globally Harmonized System (GHS).
- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**
This product contains no hazardous constituents, or the concentration of all chemical constituents are below the regulatory threshold limits described by Occupational Safety Health Administration Hazard Communication Standard 29 CFR 1910.1200 and the European Directive 91/155/EEC, and 93/112/EC.
- **Void**
- **Classification system:**
The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.
- **Label elements**
- **Labelling according to EU guidelines:**
Observe the general safety regulations when handling chemicals
The product is not subject to identification regulations pertaining to regulations on hazardous materials.
- **Classification system**
- **NFPA ratings (scale 0-4)**



Health = 0
Flammability = 0
Reactivity = 0

4 First aid measures

- **General information** No special measures required.
- **After inhalation** Seek medical treatment in case of complaints.
- **After skin contact** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact**
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

(Contd. on page 2)

Printing date 04/03/2012

Reviewed on 02/15/2012

Product name: Standard/Sample Diluent (51-2708KD)

(Contd. of page 1)

· **After swallowing** If symptoms persist consult doctor.

5 Firefighting measures

- **Suitable extinguishing agents**
CO₂, ABC multipurpose dry chemical or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture** Nitrogen oxides (NO_x)
- **Protective equipment:** No special measures required.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:** Wipe up with damp sponge or mop.
- **Methods and material for containment and cleaning up:** No special measures required.
- **Reference to other sections**
No dangerous substances are released.
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

- **Handling**
- **Precautions for safe handling** No special measures required.
- **Information about protection against explosions and fires:** No special measures required.
- **Storage**
- **Requirements to be met by storerooms and receptacles:** 4 °C
- **Information about storage in one common storage facility:**
Do not store together with oxidizing and acidic materials as well as heavy-metal compounds.
- **Further information about storage conditions:** Store in cool, dry conditions in well sealed containers.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Components with limit values that require monitoring at the workplace:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Additional information:** The lists that were valid during the creation were used as basis.
- **Personal Protective Equipment**
- **General protective and hygienic measures**
The usual precautionary measures for handling chemicals should be followed.
- **Breathing equipment:** Not required.
- **Protection of hands:**



Chemical resistant gloves (i.e. nitrile, or equivalent).

(Contd. on page 3)

Printing date 04/03/2012

Reviewed on 02/15/2012

Product name: Standard/Sample Diluent (51-2708KD)

(Contd. of page 2)

- **Eye protection:** Safety glasses
- **Body protection:** Protective work clothing (lab coat).

9 Physical and chemical properties

- **General Information**
- **Appearance:**
 - Form:** Liquid
 - Color:** According to product specification
- **Odor:** Characteristic
- **Odour threshold:** Not determined.
- **pH-value:** 7.2-7.6
- **Change in condition** Undetermined
- **Melting point/Melting range:** Not determined
- **Boiling point/Boiling range:** Not determined
- **Flash point:** Not applicable
- **Flammability (solid, gaseous)** Not applicable.
- **Ignition temperature:**
- **Decomposition temperature:** Not determined.
- **Auto igniting:** Product is not self igniting.
- **Danger of explosion:** Product does not present an explosion hazard.
- **Explosion limits:**
 - Lower:** Not determined.
 - Upper:** Not determined.
- **Vapor pressure:** Not applicable
- **Density:** Not determined
- **Relative density** Not determined.
- **Vapour density** Not determined.
- **Evaporation rate** Not determined.
- **Solubility in / Miscibility with Water:** Not miscible or difficult to mix
- **Segregation coefficient (n-octanol/water):** Not determined.
- **Viscosity:**
 - dynamic:** Not determined.
 - kinematic:** Not determined.
- **Other information** No further relevant information available.

10 Stability and reactivity

- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Incompatible materials:**
 - No further relevant information available.
 - Incompatible materials: acidic material and metals

(Contd. on page 4)

Product name: Standard/Sample Diluent (51-2708KD)

(Contd. of page 3)

*Incompatible material: strong oxidizers.**· Hazardous decomposition products: Nitrogen oxides (NO_x)**· Additional information:**Sodium azide is present in this product. Contact with acidic solutions and metal compounds over time may form potentially explosive metal azides. Should any of this material be introduced into a sanitary sewer system, flush with copious amounts of water.***11 Toxicological information***· Acute toxicity:**· Primary irritant effect:**· on the skin: No irritating effect.**· on the eye: No irritating effect.**· Sensitization: No sensitizing effects known.**· Additional toxicological information:**The product is not subject to OSHA classification according to internally approved calculation methods for preparations.**When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.***12 Ecological information***· Aquatic toxicity: No further relevant information available.**· Persistence and degradability No further relevant information available.**· Behavior in environmental systems:**· Bioaccumulative potential No further relevant information available.**· Ecotoxicological effects:**· Other information:**The ecological effects have not been thoroughly investigated, but currently none have been identified.**· Additional ecological information:**· General notes: Water hazard class 1 (Self-assessment): slightly hazardous for water.***13 Disposal considerations***· Waste treatment methods**· Recommendation**Smaller quantities can be disposed of with solid waste.**This product is not considered a RCRA hazardous waste.**Dispose of material in accordance with federal (40 CFR 261), state and local requirements.**· Uncleaned packagings:**· Recommendation: Disposal must be made according to state and federal regulations.**· Recommended cleansing agent: Water, if necessary with cleansing agents.***14 Transport information***· UN-Number**· DOT, ADR, ADN, IMDG, IATA*

Void

(Contd. on page 5)

Printing date 04/03/2012

Reviewed on 02/15/2012

Product name: Standard/Sample Diluent (51-2708KD)

(Contd. of page 4)

- | | |
|---|-----------------|
| · UN proper shipping name
· DOT, ADR, ADN, IMDG, IATA | Void |
| · Transport hazard class(es)
· DOT, ADR, ADN, IMDG, IATA
· Class | Void |
| · Packing group
· DOT, ADR, IMDG, IATA | Void |
| · Environmental hazards:
· Marine pollutant: | No |
| · Special precautions for user | Not applicable. |
| · Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code | Not applicable. |
| · UN "Model Regulation": | - |

15 Regulatory information

- | | |
|--|--------------|
| · SARA Section 355 (extremely hazardous substances) | |
| None of the ingredients is listed. | |
| · SARA Section 313 (specific toxic chemical listings) | |
| None of the ingredients is listed. | |
| · TSCA (Toxic Substances Control Act) | |
| 60-00-4 | EDTA |
| 26628-22-8 | Sodium azide |
| · California Proposition 65 - Chemicals known to cause cancer | |
| None of the ingredients is listed. | |
| · Chemicals known to cause reproductive toxicity for females: | |
| None of the ingredients is listed. | |
| · Chemicals known to cause reproductive toxicity for males: | |
| None of the ingredients is listed. | |
| · Chemicals known to cause developmental toxicity: | |
| None of the ingredients is listed. | |
| · Carcinogenic categories | |
| · IARC (International Agency for Research on Cancer) | |
| None of the ingredients is listed. | |
| · NTP (National Toxicology Program) | |
| None of the ingredients is listed. | |
| · TLV (Threshold Limit Value established by ACGIH) | |
| 26628-22-8 | Sodium azide |
| · Product related hazard information: | |
| Observe the general safety regulations when handling chemicals | |

A4

(Contd. on page 6)

Product name: Standard/Sample Diluent (51-2708KD)

(Contd. of page 5)

The product is not subject to identification regulations pertaining to regulations on hazardous materials.

16 Other information

To the best of our knowledge, the information contained herein is accurate. However, neither Becton, Dickinson and Company or any of its subsidiaries assumes any liabilities whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

· **Department issuing MSDS:** Safety and Environment Department

· **Contact:** Technical Service Representative

· **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

ICAO: International Civil Aviation Organization

ACGIH: American Conference of Governmental Industrial Hygienists

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

1 Identification of the substance/mixture and of the company/undertaking

- **Product identifier**
- **Product name:** ELISA Diluent (51-2707KD)
- **Catalog number:** 550610i
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
BD Biosciences, Pharmingen
10975 Torreyana Road
San Diego, CA 92121-1106
Tel. (877)232-8995
- **Information department:** Technical Services
- **Emergency telephone number:**
In case of a chemical emergency, spill, fire, exposure, or accident please call ChemTrec at (800)424-9300 or 911

2 Composition/information on ingredients

- **Chemical characterization:** Substances Mixture of the substances listed below with nonhazardous additions.
- **CAS No. Description:**
inert

3 Hazards identification

- **Classification of the substance or mixture**
The substance is not classified according to the Globally Harmonized System (GHS).
- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**
This product contains no hazardous constituents, or the concentration of all chemical constituents are below the regulatory threshold limits described by Occupational Safety Health Administration Hazard Communication Standard 29 CFR 1910.1200 and the European Directive 91/155/EEC, and 93/112/EC.
Void
- **Label elements**
- **Labelling according to EU guidelines:**
Observe the general safety regulations when handling chemicals
The substance is not subject to classification according to the sources of literature known to us.
The product is not subject to identification regulations pertaining to regulations on hazardous materials.
- **Classification system**
- **NFPA ratings (scale 0-4)**



Health = 0
Flammability = 0
Reactivity = 0

4 First aid measures

- **General information** No special measures required.
- **After inhalation** Seek medical treatment in case of complaints.
- **After skin contact** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact**
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

(Contd. on page 2)

Printing date 04/03/2012

Reviewed on 02/15/2012

Product name: ELISA Diluent (51-2707KD)

(Contd. of page 1)

· **After swallowing** If symptoms persist consult doctor.

5 Firefighting measures

- **Suitable extinguishing agents**
CO2, ABC multipurpose dry chemical or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Protective equipment:** No special measures required.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:** Wipe up with damp sponge or mop.
- **Methods and material for containment and cleaning up:** No special measures required.
- **Reference to other sections**
No dangerous substances are released.
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

- **Handling**
- **Precautions for safe handling** No special measures required.
- **Information about protection against explosions and fires:** No special measures required.
- **Storage**
- **Requirements to be met by storerooms and receptacles:** 4 C
- **Information about storage in one common storage facility:** Store away from oxidizing agents.
- **Further information about storage conditions:** Store in cool, dry conditions in well sealed containers.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Components with limit values that require monitoring at the workplace:** Not required.
- **Additional information:** The lists that were valid during the creation were used as basis.
- **Personal Protective Equipment**
- **General protective and hygienic measures**
The usual precautionary measures for handling chemicals should be followed.
- **Breathing equipment:** Not required.
- **Protection of hands:**



Chemical resistant gloves (i.e. nitrile, or equivalent).

- **Eye protection:** Safety glasses

(Contd. on page 3)

Printing date 04/03/2012

Reviewed on 02/15/2012

Product name: ELISA Diluent (51-2707KD)

(Contd. of page 2)

· **Body protection:** Protective work clothing (lab coat).

9 Physical and chemical properties

· **General Information**

· **Appearance:**

Form:	Liquid
Color:	Clear
Odor:	Odorless
Odour threshold:	Not determined.

· **pH-value at 20°C (68 °F):** 7

· **Change in condition** Undetermined

· **Melting point/Melting range:** Not determined

· **Boiling point/Boiling range:** Not determined

· **Flash point:** Not applicable

· **Flammability (solid, gaseous)** Not applicable.

· **Ignition temperature:**

· **Decomposition temperature:** Not determined.

· **Auto igniting:** Not determined.

· **Danger of explosion:** Product does not present an explosion hazard.

· **Explosion limits:**

· **Lower:** Not determined.

· **Upper:** Not determined.

· **Vapor pressure:** Not applicable

· **Density:** Not determined

· **Relative density** Not determined.

· **Vapour density** Not determined.

· **Evaporation rate** Not determined.

· **Solubility in / Miscibility with**

· **Water:** Not miscible or difficult to mix

· **Segregation coefficient (n-octanol/water):** Not determined.

· **Viscosity:**

· **dynamic:** Not determined.

· **kinematic:** Not determined.

· **Organic solvents:** 0.0 %

· **Other information** No further relevant information available.

10 Stability and reactivity

· **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.

· **Incompatible materials:**

Incompatible material: strong oxidizers.

No further relevant information available.

(Contd. on page 4)

Product name: ELISA Diluent (51-2707KD)

(Contd. of page 3)

Hazardous decomposition products: No dangerous decomposition products known.**11 Toxicological information**

- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** No irritating effect.
- **on the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**

The product is not subject to OSHA classification according to internally approved calculation methods for preparations.

When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

The substance is not subject to classification.

12 Ecological information

- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Ecotoxicological effects:**
- **Other information:**

The ecological effects have not been thoroughly investigated, but currently none have been identified.

- **Additional ecological information:**
- **General notes:** Generally not hazardous for water.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation**

Smaller quantities can be disposed of with solid waste.

This product is not considered a RCRA hazardous waste.

Dispose of material in accordance with federal (40 CFR 261), state and local requirements.

- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to state and federal regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport information

- | | |
|------------------------------------|------|
| · UN-Number | |
| · DOT, ADR, ADN, IMDG, IATA | Void |
| · UN proper shipping name | |
| · DOT, ADR, ADN, IMDG, IATA | Void |

(Contd. on page 5)

USA

Printing date 04/03/2012

Reviewed on 02/15/2012

Product name: ELISA Diluent (51-2707KD)

(Contd. of page 4)

- | | |
|--|-----------------|
| · Transport hazard class(es) | |
| · DOT, ADR, ADN, IMDG, IATA | |
| · Class | Void |
| · Packing group | |
| · DOT, ADR, IMDG, IATA | Void |
| · Environmental hazards: | |
| · Marine pollutant: | No |
| · Special precautions for user | Not applicable. |
| · Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code | Not applicable. |
| · UN "Model Regulation": | - |

15 Regulatory information

- | |
|--|
| · SARA Section 355 (extremely hazardous substances) |
| Substance is not listed. |
| · SARA Section 313 (specific toxic chemical listings) |
| Substance is not listed. |
| · TSCA (Toxic Substances Control Act) |
| Substance is not listed. |
| · California Proposition 65 - Chemicals known to cause cancer |
| Substance is not listed. |
| · Chemicals known to cause reproductive toxicity for females: |
| Substance is not listed. |
| · Chemicals known to cause reproductive toxicity for males: |
| Substance is not listed. |
| · Chemicals known to cause developmental toxicity: |
| Substance is not listed. |
| · Carcinogenic categories |
| · IARC (International Agency for Research on Cancer) |
| Substance is not listed. |
| · NTP (National Toxicology Program) |
| Substance is not listed. |
| · TLV (Threshold Limit Value established by ACGIH) |
| Substance is not listed. |

- **Product related hazard information:**
 Observe the general safety regulations when handling chemicals
 The substance is not subject to classification according to the sources of literature known to us.
 The product is not subject to identification regulations pertaining to regulations on hazardous materials.

(Contd. on page 6)

Printing date 04/03/2012

Reviewed on 02/15/2012

Product name: ELISA Diluent (51-2707KD)

(Contd. of page 5)

- **National regulations**
- **Water hazard class:** Generally not hazardous for water.

16 Other information

To the best of our knowledge, the information contained herein is accurate. However, neither Becton, Dickinson and Company or any of its subsidiaries assumes any liabilities whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

- **Department issuing MSDS:** Safety and Environment Department

- **Contact:** Technical Service Representative

- **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

ICAO: International Civil Aviation Organization

ACGIH: American Conference of Governmental Industrial Hygienists

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

USA