

02/17/2015

Kit Components

Product code	Description
556405	APO-BRDU™ Kit

Components:

51-6577LZ	Positive Control Cells
51-6578LZ	Negative Control Cells
51-6585AZ	PI/ RNase Staining Buffer
51-6579AZ	Wash Buffer
51-6580AZ	Reaction Buffer
51-6581EZ	TdT Enzyme
51-6582EZ	Br-dUTP
51-6583AZ	Rinsing Buffer
51-6584AZ	FITC anti-BrdU monoclonal antibody

1 Identification

- **Product identifier**
 - **Product name:** Positive Control Cells
 - **Catalog number:** 51-6577LZ
- **Relevant identified uses of the substance or mixture and uses advised against**
 - **Sector of Use** SU24 Scientific research and development
- **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, or exposure, call BD Biosciences at (877)232-8995, or ChemTrec at (800)424-9300.

2 Hazard(s) identification

- **Classification of the substance or mixture**

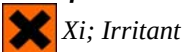


Flam. Liq. 2 H225 Highly flammable liquid and vapor.



Eye Irrit. 2A H319 Causes serious eye irritation.

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



R36: Irritating to eyes.



F; Highly flammable

R11: Highly flammable.

- **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**

- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms** GHS02, GHS07

- **Signal word** Danger

- **Hazard statements**

Highly flammable liquid and vapor.

Causes serious eye irritation.

- **Precautionary statements**

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Wear protective gloves/protective clothing/eye protection/face protection.

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

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

Continue rinsing.

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Store in a well-ventilated place. Keep cool.

Dispose of contents/container in accordance with local/regional/national/international regulations.

· Classification system

 · **NFPA ratings (scale 0-4)**


Health = 1

Flammability = 3

Reactivity = 0

· Other hazards
· Results of PBT and vPvB assessment

 · **PBT:** Not applicable.

 · **vPvB:** Not applicable.

3 Composition/information on ingredients

· Chemical characterization: Mixtures

 · **Description:** Mixture of the substances listed below with nonhazardous additions.

· Dangerous components:

64-17-5	ethanol	 Xi R36;  F R11  Flam. Liq. 2, H225;  Eye Irrit. 2A, H319	56.0%
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4 First-aid measures

· Description of 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** Flush immediately with water for 15 minutes, and consult a doctor.

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

 · **Most important symptoms and effects, both acute and delayed** No further relevant information available.

 · **Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

5 Fire-fighting measures

· Extinguishing media

 · **Suitable extinguishing agents** CO₂, sand, extinguishing powder. Do not use water.

 · **For safety reasons unsuitable extinguishing agents** Water with full jet.

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

· Advice for firefighters

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

6 Accidental release measures

· Personal precautions, protective equipment and emergency procedures

The usual precautionary measures for handling chemicals should be followed.

See Section 8 for information on personal protection equipment.

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- **Environmental precautions:** No special measures required.
- **Methods and material for containment and cleaning up:**
 Wipe up with damp sponge or mop.
 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

- **Precautions for safe handling**
 Ensure good ventilation/exhaustion at the workplace.
 Prevent formation of aerosols.
- **Information about protection against explosions and fires:**
 Keep ignition sources away - Do not smoke.
 Protect against electrostatic charges.
- **Conditions for safe storage, including any incompatibilities**
 - **Storage**
 - **Requirements to be met by storerooms and receptacles:** -20° 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.
- **Control parameters**
 - **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.
- **Exposure controls**
 - **Personal Protective Equipment**
 - **General protective and hygienic measures**
 Keep away from foodstuffs, beverages and feed.
 Wash hands before breaks and at the end of work.
 - **Breathing equipment:** Not required.
 - **Protection of hands:**



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

- **Eye protection:**



Safety glasses

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Product name: Positive Control Cells

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- Tightly sealed goggles.
- **Body protection:** Protective work clothing (lab coat).

9 Physical and chemical properties

· Information on basic physical and chemical properties

· General Information

· Appearance:

- **Form:** Liquid
- **Color:** Colorless
- **Odor:** Alcohol-like
- **Odour threshold:** Not determined

- **pH-value:** Not determined

· Change in condition

- **Melting point/Melting range:** Not determined
- **Boiling point/Boiling range:** > 78 °C (> 172 °F)

- **Flash point:** 20 °C (68 °F)

- **Flammability (solid, gaseous)** Not applicable

- **Ignition temperature:** Not determined

- **Decomposition temperature:** Not determined

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

- **Danger of explosion:** Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

· 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:** Soluble

- **Partition coefficient (n-octanol/water):** Not determined

· Viscosity:

- **dynamic:** Not determined
- **kinematic:** Not determined

· Solvent content:

- **Organic solvents:** 56 %
- **Water:** 44 %

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

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Product name: Positive Control Cells

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10 Stability and reactivity

- **Reactivity**
- **Chemical stability**
 - **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** Incompatible material: strong oxidizers.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
 - **Primary irritant effect:**
 - **on the skin:** No irritating effect.
 - **on the eye:** Irritating effect.
 - **Sensitization:** No sensitizing effects known.
- **Subacute to chronic toxicity:** Target organs: thyroid, kidney, ureter or bladder tumors.
- **Additional toxicological information:**
 The product shows the following dangers according to internally approved calculation methods for preparations:
 - **Carcinogenic categories**

· IARC (International Agency for Research on Cancer)

None of the ingredients is listed.

· NTP (National Toxicology Program)
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None of the ingredients is listed.

· OSHA-Ca (Occupational Safety & Health Administration)
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None of the ingredients is listed.

12 Ecological information

- **Toxicity**
 - **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** 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.
- **Results of PBT and vPvB assessment**
 - **PBT:** Not applicable.
 - **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

USA

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Product name: Positive Control Cells

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13 Disposal considerations

- **Waste treatment methods**
- **Recommendation**
 RCRA hazardous waste - RCRA # D001 (ignitable).
 Must not be disposed of with solid 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 | UN1170 |
| · DOT, ADR, IMDG, IATA | |
| · UN proper shipping name | |
| · DOT | Ethanol |
| · ADR | 1170 Ethanol (Ethyl alcohol) |
| · IMDG | ETHANOL (ETHYL ALCOHOL) |
| · IATA | ETHANOL |
| · Transport hazard class(es) | |
| · DOT | |
|  | |
| · Class | 3 Flammable liquids |
| · Label | 3 |
| · ADR | |
|  | |
| · Class | 3 (F1) Flammable liquids |
| · Label | 3 |
| · IMDG, IATA | |
|  | |
| · Class | 3 Flammable liquids |
| · Label | 3 |
| · Packing group | |
| · DOT, ADR, IMDG, IATA | II |

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· Environmental hazards:	
· Marine pollutant:	No
· Special precautions for user	
· Danger code (Kemler):	Warning: Flammable liquids 33
· EMS Number:	F-E,S-D
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	
Not applicable.	
· Transport/Additional information:	
· DOT	
· Quantity limitations	On passenger aircraft/rail: 5 L On cargo aircraft only: 60 L
· Remarks:	EQ
· ADR	
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· Remarks:	EQ
· IMDG	
· Limited quantities (LQ)	1L
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· Remarks:	EQ
· IATA	
· Remarks:	EQ
· UN "Model Regulation":	UN1170, Ethanol (Ethyl alcohol), 3, II

15 Regulatory information

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

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

None of the ingredients is listed.

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

64-17-5 ethanol

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

64-17-5 ethanol

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.

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Product name: Positive Control Cells

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· Chemicals known to cause developmental toxicity:

64-17-5 ethanol

· Carcinogenic categories
· TLV (Threshold Limit Value established by ACGIH)

64-17-5 ethanol

A3

· GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).

· Hazard pictograms GHS02, GHS07

· Signal word Danger

· Hazard statements

Highly flammable liquid and vapor.

Causes serious eye irritation.

· Precautionary statements

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Wear protective gloves/protective clothing/eye protection/face protection.

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

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

Store in a well-ventilated place. Keep cool.

Dispose of contents/container in accordance with local/regional/national/international regulations.

· National regulations
· Technical instructions (air):

Class	Share in %
Wasser	44.0
NK	56.0

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

· Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

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.

· 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)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

NFPA: National Fire Protection Association (USA)

Flam. Liq. 2: Flammable liquids, Hazard Category 2

Eye Irrit. 2A: Serious eye damage/eye irritation, Hazard Category 2A

1 Identification

- **Product identifier**

- **Product name:** Negative Control Cells

- **Catalog number:** 51-6578LZ

- **Relevant identified uses of the substance or mixture and uses advised against**

- **Sector of Use** SU24 Scientific research and development

- **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, or exposure, call BD Biosciences at (877)232-8995, or ChemTrec at (800)424-9300.

2 Hazard(s) identification

- **Classification of the substance or mixture**



Flame

Flam. Liq. 2 H225 Highly flammable liquid and vapor.



Eye Irrit. 2A H319 Causes serious eye irritation.

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



Xi; Irritant

R36: Irritating to eyes.



F; Highly flammable

R11: Highly flammable.

- **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**

- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms** GHS02, GHS07

- **Signal word** Danger

- **Hazard statements**

- Highly flammable liquid and vapor.

- Causes serious eye irritation.

- **Precautionary statements**

- Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

- Wear protective gloves/protective clothing/eye protection/face protection.

- IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

- Continue rinsing.

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Product name: Negative Control Cells

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Store in a well-ventilated place. Keep cool.

Dispose of contents/container in accordance with local/regional/national/international regulations.

· Classification system

 · **NFPA ratings (scale 0-4)**


Health = 1

Flammability = 3

Reactivity = 0

· Other hazards
· Results of PBT and vPvB assessment

 · **PBT:** Not applicable.

 · **vPvB:** Not applicable.

3 Composition/information on ingredients

· Chemical characterization: Mixtures

 · **Description:** Mixture of the substances listed below with nonhazardous additions.

· Dangerous components:

64-17-5	ethanol	 Xi R36;  F R11  Flam. Liq. 2, H225;  Eye Irrit. 2A, H319	56.0%
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4 First-aid measures

· Description of 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** Flush immediately with water for 15 minutes, and consult a doctor.

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

 · **Most important symptoms and effects, both acute and delayed** No further relevant information available.

 · **Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

5 Fire-fighting measures

· Extinguishing media

 · **Suitable extinguishing agents** CO₂, sand, extinguishing powder. Do not use water.

 · **For safety reasons unsuitable extinguishing agents** Water with full jet.

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

· Advice for firefighters

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

6 Accidental release measures

· Personal precautions, protective equipment and emergency procedures

The usual precautionary measures for handling chemicals should be followed.

See Section 8 for information on personal protection equipment.

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Product name: Negative Control Cells

(Contd. of page 2)

- **Environmental precautions:** No special measures required.
- **Methods and material for containment and cleaning up:**
 - Wipe up with damp sponge or mop.
 - 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

- **Precautions for safe handling**
 - Ensure good ventilation/exhaustion at the workplace.
 - Prevent formation of aerosols.
- **Information about protection against explosions and fires:**
 - Keep ignition sources away - Do not smoke.
 - Protect against electrostatic charges.
- **Conditions for safe storage, including any incompatibilities**
 - **Storage**
 - **Requirements to be met by storerooms and receptacles:** -20° 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.
- **Control parameters**
 - **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.
- **Exposure controls**
 - **Personal Protective Equipment**
 - **General protective and hygienic measures**
 - Keep away from foodstuffs, beverages and feed.
 - Wash hands before breaks and at the end of work.
 - **Breathing equipment:** Not required.
 - **Protection of hands:**



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

- **Eye protection:**



Safety glasses

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Product name: Negative Control Cells

(Contd. of page 3)

- Tightly sealed goggles.
- **Body protection:** Protective work clothing (lab coat).

9 Physical and chemical properties

· Information on basic physical and chemical properties

· General Information

· Appearance:

- **Form:** Liquid
- **Color:** Colorless
- **Odor:** Alcohol-like
- **Odour threshold:** Not determined

- **pH-value:** Not determined

· Change in condition

- **Melting point/Melting range:** Not determined
- **Boiling point/Boiling range:** > 78 °C (> 172 °F)

- **Flash point:** 20 °C (68 °F)

- **Flammability (solid, gaseous)** Not applicable

- **Ignition temperature:** Not determined

- **Decomposition temperature:** Not determined

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

- **Danger of explosion:** Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

· 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:** Soluble

- **Partition coefficient (n-octanol/water):** Not determined

· Viscosity:

- **dynamic:** Not determined
- **kinematic:** Not determined

· Solvent content:

- **Organic solvents:** 56 %
- **Water:** 44 %

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

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Product name: Negative Control Cells

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10 Stability and reactivity

- **Reactivity**
- **Chemical stability**
 - **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** Incompatible material: strong oxidizers.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
 - **Primary irritant effect:**
 - **on the skin:** No irritating effect.
 - **on the eye:** Irritating effect.
 - **Sensitization:** No sensitizing effects known.
- **Subacute to chronic toxicity:** Target organs: thyroid, kidney, ureter or bladder tumors.
- **Additional toxicological information:**
 The product shows the following dangers according to internally approved calculation methods for preparations:
 - **Carcinogenic categories**

· IARC (International Agency for Research on Cancer)

None of the ingredients is listed.

· NTP (National Toxicology Program)
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None of the ingredients is listed.

· OSHA-Ca (Occupational Safety & Health Administration)
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None of the ingredients is listed.

12 Ecological information

- **Toxicity**
 - **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** 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.
- **Results of PBT and vPvB assessment**
 - **PBT:** Not applicable.
 - **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

-USA-

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Product name: Negative Control Cells

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13 Disposal considerations

- **Waste treatment methods**
- **Recommendation**
 RCRA hazardous waste - RCRA # D001 (ignitable).
 Must not be disposed of with solid 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 | UN1170 |
| · DOT, ADR, IMDG, IATA | |
| · UN proper shipping name | |
| · DOT | Ethanol |
| · ADR | 1170 Ethanol (Ethyl alcohol) |
| · IMDG | ETHANOL (ETHYL ALCOHOL) |
| · IATA | ETHANOL |
| · Transport hazard class(es) | |
| · DOT | |
|  | |
| · Class | 3 Flammable liquids |
| · Label | 3 |
| · ADR | |
|  | |
| · Class | 3 (F1) Flammable liquids |
| · Label | 3 |
| · IMDG, IATA | |
|  | |
| · Class | 3 Flammable liquids |
| · Label | 3 |
| · Packing group | |
| · DOT, ADR, IMDG, IATA | II |

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· Environmental hazards:	
· Marine pollutant:	No
· Special precautions for user	Warning: Flammable liquids
· Danger code (Kemler):	33
· EMS Number:	F-E,S-D
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	
· DOT	
· Quantity limitations	On passenger aircraft/rail: 5 L On cargo aircraft only: 60 L
· Remarks:	EQ
· ADR	
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· Remarks:	EQ
· IMDG	
· Limited quantities (LQ)	1L
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· Remarks:	EQ
· IATA	
· Remarks:	EQ
· UN "Model Regulation":	UN1170, Ethanol (Ethyl alcohol), 3, II

15 Regulatory information

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

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

None of the ingredients is listed.

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

64-17-5 ethanol

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

64-17-5 ethanol

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.

(Contd. on page 8)

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Product name: Negative Control Cells

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· Chemicals known to cause developmental toxicity:

64-17-5 ethanol

· Carcinogenic categories
· TLV (Threshold Limit Value established by ACGIH)

64-17-5 ethanol

A3

· GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).

· Hazard pictograms GHS02, GHS07

· Signal word Danger

· Hazard statements

Highly flammable liquid and vapor.

Causes serious eye irritation.

· Precautionary statements

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Wear protective gloves/protective clothing/eye protection/face protection.

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

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

Store in a well-ventilated place. Keep cool.

Dispose of contents/container in accordance with local/regional/national/international regulations.

· National regulations
· Technical instructions (air):

Class	Share in %
Wasser	44.0
NK	56.0

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

· Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

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.

· 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)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

NFPA: National Fire Protection Association (USA)

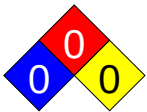
Flam. Liq. 2: Flammable liquids, Hazard Category 2

Eye Irrit. 2A: Serious eye damage/eye irritation, Hazard Category 2A

1 Identification

- **Product identifier**
 - **Product name:** PI/ RNase Staining Buffer
 - **Catalog number:** 51-6585AZ
- **Relevant identified uses of the substance or mixture and uses advised against**
 - **Sector of Use** SU24 Scientific research and development
- **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, or exposure, call BD Biosciences at (877)232-8995, or ChemTrec at (800)424-9300.

2 Hazard(s) 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.
- **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**
 - **GHS label elements** Void
 - **Hazard pictograms** Void
 - **Signal word** Void
 - **Hazard statements** Void
- **Classification system**
 - **NFPA ratings (scale 0-4)**

Health = 0
Flammability = 0
Reactivity = 0
- **Other hazards**
 - **Results of PBT and vPvB assessment**
 - **PBT:** Not applicable.
 - **vPvB:** Not applicable.

3 Composition/information on ingredients

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

Printing date 02/17/2015

Reviewed on 02/12/2015

Product name: PI/ RNase Staining Buffer

(Contd. of page 1)

4 First-aid measures

- **Description of 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** Flush immediately with water for 15 minutes, and consult a doctor.
- **After swallowing** If symptoms persist consult doctor.
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **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)
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
The usual precautionary measures for handling chemicals should be followed.
See Section 8 for information on personal protection equipment.
- **Environmental precautions:** No special measures required.
- **Methods and material for containment and cleaning up:** Wipe up with damp sponge or mop.
- **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

- **Precautions for safe handling** No special measures required.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **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.

USA

(Contd. on page 3)

Printing date 02/17/2015

Reviewed on 02/12/2015

Product name: PI/ RNase Staining Buffer

(Contd. of page 2)

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**
 - **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.
- **Exposure controls**
 - **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).

9 Physical and chemical properties

- **Information on basic physical and chemical properties**

- **General Information**

- **Appearance:**

· Form:	Liquid
· Color:	Pink
· Odor:	Odorless
· Odour threshold:	Not determined

- **pH-value:** Not determined

· 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.

(Contd. on page 4)

Printing date 02/17/2015

Reviewed on 02/12/2015

Product name: PI/ RNase Staining Buffer

(Contd. of page 3)

· 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:	Soluble
· Partition 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

- **Reactivity** No dangerous reactions known
- **Chemical stability**
 - **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:**
 - Incompatible material: strong oxidizers.
 - Incompatible materials: acidic material and metals
- **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

- **Information on toxicological effects**
- **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.

(Contd. on page 5)

USA

Printing date 02/17/2015

Reviewed on 02/12/2015

Product name: PI/ RNase Staining Buffer

(Contd. of page 4)

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.

· **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.

· **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

12 Ecological information

· **Toxicity**

· **Aquatic toxicity:** No further relevant information available.

· **Persistence and degradability** No further relevant information available.

· **Bioaccumulative potential** No further relevant information available.

· **Mobility in soil** 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.

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

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

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 6)

Printing date 02/17/2015

Reviewed on 02/12/2015

Product name: PI/ RNase Staining Buffer

(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

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

- **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

7558-80-7 sodium phosphate, monobasic

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**

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

26628-22-8 Sodium azide

A4

- **GHS label elements** Void

- **Hazard pictograms** Void

- **Signal word** Void

- **Hazard statements** Void

- **National regulations**

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

(Contd. on page 7)

Printing date 02/17/2015

Reviewed on 02/12/2015

Product name: PI/ RNase Staining Buffer

(Contd. of page 6)

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.**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.

· **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)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

NFPA: National Fire Protection Association (USA)

USA

1 Identification

- **Product identifier**
 - **Product name:** Wash Buffer
 - **Catalog number:** 51-6579AZ
- **Relevant identified uses of the substance or mixture and uses advised against**
 - **Sector of Use** SU24 Scientific research and development
- **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, or exposure, call BD Biosciences at (877)232-8995, or ChemTrec at (800)424-9300.

2 Hazard(s) 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** 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**
 - **GHS label elements** Void
 - **Hazard pictograms** Void
 - **Signal word** Void
 - **Hazard statements** Void
- **Classification system**
 - **NFPA ratings (scale 0-4)**

Health = 0
Flammability = 0
Reactivity = 0
- **Other hazards**
 - **Results of PBT and vPvB assessment**
 - **PBT:** Not applicable.
 - **vPvB:** Not applicable.

3 Composition/information on ingredients

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

Product name: Wash Buffer

(Contd. of page 1)

4 First-aid measures

- **Description of 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** Flush immediately with water for 15 minutes, and consult a doctor.

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

- **Most important symptoms and effects, both acute and delayed** No further relevant information available.

- **Indication of any immediate medical attention and special treatment needed**

- No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**

- **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)

- **Advice for firefighters**

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

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**

- The usual precautionary measures for handling chemicals should be followed.

- See Section 8 for information on personal protection equipment.

- **Environmental precautions:** No special measures required.

- **Methods and material for containment and cleaning up:**

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

- Ensure adequate ventilation.

- Wipe up with damp sponge or mop.

- **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

- **Precautions for safe handling** No special measures required.

- **Information about protection against explosions and fires:** No special measures required.

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

- **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.

(Contd. on page 3)

Printing date 02/17/2015

Reviewed on 02/12/2015

Product name: Wash Buffer

 · **Specific end use(s)** No further relevant information available.

(Contd. of page 2)

8 Exposure controls/personal protection

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

 · **Control parameters**

 · **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.

 · **Exposure controls**

 · **Personal Protective Equipment**

 · **General protective and hygienic measures** Wash hands before breaks and at the end of work.

 · **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

 · **Information on basic physical and chemical properties**

 · **General Information**

 · **Appearance:**

 · **Form:**

Liquid

 · **Color:**

Pink

 · **Odor:**

Characteristic

 · **Odour threshold:**

Not determined

 · **pH-value at 20 °C (68 °F):**

0

 · **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.

(Contd. on page 4)

Printing date 02/17/2015

Reviewed on 02/12/2015

Product name: Wash Buffer

(Contd. of page 3)

· 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:	Soluble
· Partition coefficient (n-octanol/water):	Not determined
· Viscosity:	
· dynamic:	Not determined
· kinematic:	Not determined
· Solvent content:	
· Organic solvents:	0.0 %
· Water:	89.8 %
· Other information	No further relevant information available.

10 Stability and reactivity

- **Reactivity** No dangerous reactions known
- **Chemical stability**
 - **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:**
 - Incompatible material: strong oxidizers.
 - Incompatible materials: acidic material and metals
- **Hazardous decomposition products:** Nitrogen oxides (NOx)
- **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

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

(Contd. on page 5)

Printing date 02/17/2015

Reviewed on 02/12/2015

Product name: Wash Buffer

(Contd. of page 4)

 · **Additional toxicological information:**

 · **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.

 · **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

12 Ecological information

 · **Toxicity**

 · **Aquatic toxicity:** No further relevant information available.

 · **Persistence and degradability** No further relevant information available.

 · **Bioaccumulative potential** No further relevant information available.

 · **Mobility in soil** 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.

 · **Results of PBT and vPvB assessment**

 · **PBT:** Not applicable.

 · **vPvB:** Not applicable.

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

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)

Printing date 02/17/2015

Reviewed on 02/12/2015

Product name: Wash Buffer

(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

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

- **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)**

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**

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

26628-22-8 Sodium azide

A4

- **GHS label elements** Void
- **Hazard pictograms** Void
- **Signal word** Void
- **Hazard statements** Void

- **National regulations**

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

- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

USA

(Contd. on page 7)

Printing date 02/17/2015

Reviewed on 02/12/2015

Product name: Wash Buffer

(Contd. of page 6)

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.

· **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)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

NFPA: National Fire Protection Association (USA)

USA

Printing date 02/17/2015

Reviewed on 02/17/2015

1 Identification

- **Product identifier**
 - **Product name:** Reaction Buffer
 - **Catalog number:** 51-6580AZ
- **Relevant identified uses of the substance or mixture and uses advised against**
 - **Sector of Use** SU24 Scientific research and development
- **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, or exposure, call BD Biosciences at (877)232-8995, or ChemTrec at (800)424-9300.

2 Hazard(s) identification

- **Classification of the substance or mixture**



Health hazard

Carc. 2 H351 Suspected of causing cancer.

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

- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms** GHS08

- **Signal word** Warning

- **Hazard statements**

Suspected of causing cancer.

- **Precautionary statements**

Wear protective clothing / eye protection.

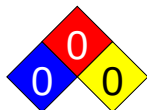
Wear protective gloves.

IF exposed or concerned: Get medical advice/attention.

Dispose of contents/container in accordance with local/regional/national/international regulations.

- **Classification system**

- **NFPA ratings (scale 0-4)**



Health = 0

Flammability = 0

Reactivity = 0

- **Other hazards**

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.

- **vPvB:** Not applicable.

USA

(Contd. on page 2)

Printing date 02/17/2015

Reviewed on 02/17/2015

Product name: Reaction Buffer

(Contd. of page 1)

3 Composition/information on ingredients

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

- **Dangerous components:**

75-60-5	Cacodylic acid  T R23/25;  Xn R40;  N R50/53 Carc. Cat. 3  Acute Tox. 3, H301;  Acute Tox. 3, H331;  Carc. 2, H351;  Aquatic Acute 1, H400; Aquatic Chronic 1, H410	0.2%
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4 First-aid measures

- **Description of first aid measures**
- **General information** No special measures required.
- **After inhalation** Supply fresh air; consult doctor in case of complaints.
- **After skin contact** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact** Flush immediately with water for 15 minutes, and consult a doctor.
- **After swallowing** Seek immediate medical advice.
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
 No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **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**
 Formation of toxic gases is possible during heating or in case of fire.
 Nitrogen oxides (NO_x)
- **Advice for firefighters**
 - **Protective equipment:** No special measures required.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
 The usual precautionary measures for handling chemicals should be followed.
 See Section 8 for information on personal protection equipment.
- **Environmental precautions:** No special measures required.
- **Methods and material for containment and cleaning up:**
 Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders).
 Dispose contaminated material as waste according to item 13.
 Ensure adequate ventilation.
 Wipe up with damp sponge or mop.
- **Reference to other sections**
 See Section 7 for information on safe handling.
 See Section 8 for information on personal protection equipment.

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Printing date 02/17/2015

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Product name: Reaction Buffer

See Section 13 for disposal information.

(Contd. of page 2)

7 Handling and storage

- **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.
- **Conditions for safe storage, including any incompatibilities**
 - **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.
- **Control parameters**
 - **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.
- **Exposure controls**
 - **Personal Protective Equipment**
 - **General protective and hygienic measures**
Keep away from foodstuffs, beverages and feed.
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).

USA

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Printing date 02/17/2015

Reviewed on 02/17/2015

Product name: Reaction Buffer

(Contd. of page 3)

9 Physical and chemical properties

· Information on basic physical and chemical properties

· General Information

· Appearance:

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

· pH-value:	Not determined
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· Change in condition

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

· Flash point:	Not applicable
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· Flammability (solid, gaseous)	Not applicable
---------------------------------	----------------

· Ignition temperature:

· Decomposition temperature:	Not determined
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· Auto igniting:	Product is not self igniting.
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· 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:	Soluble
----------	---------

· Partition coefficient (n-octanol/water):	Not determined
--	----------------

· Viscosity:

· dynamic:	Not determined
· kinematic:	Not determined

· Solvent content:

· Organic solvents:	0.0 %
· Water:	98.2 %

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

10 Stability and reactivity

· **Reactivity** No dangerous reactions known

· Chemical stability

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

· **Possibility of hazardous reactions** No dangerous reactions known

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Reviewed on 02/17/2015

Product name: Reaction Buffer

(Contd. of page 4)

- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:**
 Incompatible material: strong oxidizers.
 Incompatible materials: acidic material and metals
- **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

- **Information on toxicological effects**
- **Acute toxicity:**
 - **Primary irritant effect:**
 - **on the skin:** No irritating effect.
 - **on the eye:** No irritating effect.
 - **Sensitization:** No sensitizing effects known.
- **Subacute to chronic toxicity:** Target organs: kidneys, heart, brain, skin, bone marrow, liver, and nerves.
- **Additional toxicological information:**
- **Carcinogenic categories**

· IARC (International Agency for Research on Cancer)		
7646-79-9	cobalt dichloride	2B
· NTP (National Toxicology Program)		
None of the ingredients is listed.		
· OSHA-Ca (Occupational Safety & Health Administration)		
None of the ingredients is listed.		

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** 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 2 (Self-assessment): hazardous for water.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

USA

(Contd. on page 6)

Printing date 02/17/2015

Reviewed on 02/17/2015

Product name: Reaction Buffer

(Contd. of page 5)

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
· 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

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

· 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
1185-53-1	tris hydrochloride
7646-79-9	cobalt dichloride
7732-18-5	water

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Product name: Reaction Buffer

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· 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
· TLV (Threshold Limit Value established by ACGIH)

None of the ingredients is listed.

· GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).

· Hazard pictograms GHS08

· Signal word Warning

· Hazard statements

Suspected of causing cancer.

· Precautionary statements

Wear protective clothing / eye protection.

Wear protective gloves.

IF exposed or concerned: Get medical advice/attention.

Dispose of contents/container in accordance with local/regional/national/international regulations.

· National regulations
· Water hazard class: Water hazard class 2 (Self-assessment): hazardous for water.

· Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

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.

· 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)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

NFPA: National Fire Protection Association (USA)

Acute Tox. 3: Acute toxicity, Hazard Category 3

Carc. 2: Carcinogenicity, Hazard Category 2

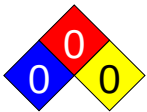
Aquatic Acute 1: Hazardous to the aquatic environment - Acute Hazard, Category 1

Aquatic Chronic 1: Hazardous to the aquatic environment - Chronic Hazard, Category 1

1 Identification

- **Product identifier**
 - **Product name:** *TdT Enzyme*
 - **Catalog number:** *51-6581EZ*
- **Relevant identified uses of the substance or mixture and uses advised against**
 - **Sector of Use** *SU24 Scientific research and development*
- **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, or exposure, call BD Biosciences at (877)232-8995, or ChemTrec at (800)424-9300.

2 Hazard(s) 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.
- **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**
 - **GHS label elements** *Void*
 - **Hazard pictograms** *Void*
 - **Signal word** *Void*
 - **Hazard statements** *Void*
- **Classification system**
 - **NFPA ratings (scale 0-4)**

Health = 0
Flammability = 0
Reactivity = 0
- **Other hazards**
 - **Results of PBT and vPvB assessment**
 - **PBT:** *Not applicable.*
 - **vPvB:** *Not applicable.*

3 Composition/information on ingredients

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

(Contd. on page 2)

USA

Printing date 02/17/2015

Reviewed on 02/12/2015

Product name: TdT Enzyme

(Contd. of page 1)

· Dangerous components:

56-81-5 glycerol

44.3%

4 First-aid measures

- **Description of 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** Flush immediately with water for 15 minutes, and consult a doctor.
 - **After swallowing** If symptoms persist consult doctor.
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **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.
- **Advice for firefighters**
 - **Protective equipment:** No special measures required.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
The usual precautionary measures for handling chemicals should be followed.
See Section 8 for information on personal protection equipment.
- **Environmental precautions:** No special measures required.
- **Methods and material for containment and cleaning up:** Wipe up with damp sponge or mop.
- **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

- **Precautions for safe handling** No special measures required.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
 - **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.

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Product name: TdT Enzyme

 · **Specific end use(s)** No further relevant information available.

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8 Exposure controls/personal protection

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

 · **Control parameters**

 · **Components with limit values that require monitoring at the workplace:**
56-81-5 glycerol

PEL	Long-term value: 15* 5** mg/m ³ mist; *total dust **respirable fraction
TLV	TLV withdrawn-insufficient data human occup. exp.
TWA	Short-term value: 10 mg/m ³

 · **Additional information:** The lists that were valid during the creation were used as basis.

 · **Exposure controls**

 · **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).

9 Physical and chemical properties

 · **Information on basic physical and chemical properties**

 · **General Information**

 · **Appearance:**

· Form:	Liquid
· Color:	Clear
· Odor:	Characteristic
· Odour threshold:	Not determined

 · **pH-value:** Not determined

· Change in condition	Undetermined
· Melting point/Melting range:	Not determined
· Boiling point/Boiling range:	Not determined

 · **Flash point:** Not applicable

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Printing date 02/17/2015

Reviewed on 02/12/2015

Product name: TdT Enzyme

(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:	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
· Partition coefficient (n-octanol/water):	Not determined
· Viscosity:	
· dynamic:	Not determined
· kinematic:	Not determined
· Solvent content:	
· Organic solvents:	0.0 %
· Water:	50.0 %
· Other information	No further relevant information available.

10 Stability and reactivity

- **Reactivity** No dangerous reactions known
- **Chemical stability**
 - **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** Incompatible material: strong oxidizers.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

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

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Reviewed on 02/12/2015

Product name: TdT Enzyme

(Contd. of page 4)

· 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.

· 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.

· OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

12 Ecological information
· Toxicity

· **Aquatic toxicity:** No further relevant information available.

· **Persistence and degradability** No further relevant information available.

· **Bioaccumulative potential** No further relevant information available.

· **Mobility in soil** 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.

· Results of PBT and vPvB assessment

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

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

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

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Product name: TdT Enzyme

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- | | |
|--|-----------------|
| · 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

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

· **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)**

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**

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

None of the ingredients is listed.

- **GHS label elements** Void
- **Hazard pictograms** Void
- **Signal word** Void
- **Hazard statements** Void

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Reviewed on 02/12/2015

Product name: TdT Enzyme

(Contd. of page 6)

· **National regulations**· **Technical instructions (air):**

Class	Share in %
Wasser	55.7
NK	44.3

· **Water hazard class:** Generally not hazardous for water.· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.**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.

· **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)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

NFPA: National Fire Protection Association (USA)

1 Identification

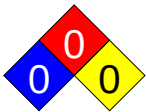
- **Product identifier**
 - **Product name:** Br-dUTP
 - **Catalog number:** 51-6582EZ
- **Relevant identified uses of the substance or mixture and uses advised against**
 - **Sector of Use** SU24 Scientific research and development
- **Details of the supplier of the safety data sheet**
 - **Manufacturer/Supplier:**
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, or exposure, call BD Biosciences at (877)232-8995, or ChemTrec at (800)424-9300.

2 Hazard(s) 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.
- **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**
 - **GHS label elements** Void
 - **Hazard pictograms** Void
 - **Signal word** Void
 - **Hazard statements** Void
- **Classification system**
 - **NFPA ratings (scale 0-4)**

Health = 0
Flammability = 0
Reactivity = 0
- **Other hazards**
 - **Results of PBT and vPvB assessment**
 - **PBT:** Not applicable.
 - **vPvB:** Not applicable.

3 Composition/information on ingredients

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

Printing date 02/17/2015

Reviewed on 02/12/2015

Product name: Br-dUTP

(Contd. of page 1)

4 First-aid measures

- **Description of 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** Flush immediately with water for 15 minutes, and consult a doctor.
 - **After swallowing** If symptoms persist consult doctor.
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **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.
- **Advice for firefighters**
 - **Protective equipment:** No special measures required.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
The usual precautionary measures for handling chemicals should be followed.
See Section 8 for information on personal protection equipment.
- **Environmental precautions:** No special measures required.
- **Methods and material for containment and cleaning up:** Wipe up with damp sponge or mop.
- **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

- **Precautions for safe handling** No special measures required.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
 - **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.

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Reviewed on 02/12/2015

Product name: Br-dUTP

(Contd. of page 2)

- **Control parameters**
- **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.

- **Exposure controls**

- **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).

9 Physical and chemical properties

- **Information on basic physical and chemical properties**

- **General Information**

- **Appearance:**

- | | |
|---------------------------|----------------|
| · Form: | Liquid |
| · Color: | Clear |
| · Odor: | Characteristic |
| · Odour threshold: | Not determined |

· pH-value:	Not determined
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· Change in condition	Undetermined
· Melting point/Melting range:	Not determined
· Boiling point/Boiling range:	Not determined

· Flash point:	Not applicable
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· Flammability (solid, gaseous)	Not applicable
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- **Ignition temperature:**

· Decomposition temperature:	Not determined
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· Auto igniting:	Product is not self igniting.
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· Danger of explosion:	Product does not present an explosion hazard.
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- **Explosion limits:**

· Lower:	Not determined
· Upper:	Not determined

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Printing date 02/17/2015

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Product name: Br-dUTP

(Contd. of page 3)

· 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:	Soluble
· Partition coefficient (n-octanol/water):	Not determined
· Viscosity:	
· dynamic:	Not determined
· kinematic:	Not determined
· Solvent content:	
· Organic solvents:	0.0 %
· Water:	50.0 %
· Other information	No further relevant information available.

10 Stability and reactivity

- **Reactivity** No dangerous reactions known
- **Chemical stability**
 - **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** Incompatible material: strong oxidizers.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- **Information on toxicological effects**
- **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.

- **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.

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Product name: Br-dUTP

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 · **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

12 Ecological information

- **Toxicity**
 - **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** 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.
- **Results of PBT and vPvB assessment**
 - **PBT:** Not applicable.
 - **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

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 |
| · Transport hazard class(es) | |
| · DOT, ADR, ADN, IMDG, IATA | |
| · Class | Void |
| · Packing group | |
| · DOT, ADR, IMDG, IATA | Void |
| · Environmental hazards: | |
| · Marine pollutant: | No |

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Product name: Br-dUTP

(Contd. of page 5)

 · **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

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

 · **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)**

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**

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

None of the ingredients is listed.

 · **GHS label elements** Void

 · **Hazard pictograms** Void

 · **Signal word** Void

 · **Hazard statements** Void

 · **National regulations**

 · **Water hazard class:** Generally not hazardous for water.

 · **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

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.

 · **Contact:** Technical Service Representative

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Safety Data Sheet
acc. to ISO/11014:2009

Printing date 02/17/2015

Reviewed on 02/12/2015

Product name: Br-dUTP

(Contd. of page 6)

· 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)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

NFPA: National Fire Protection Association (USA)

USA

1 Identification

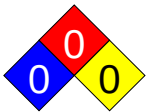
- **Product identifier**
 - **Product name:** Rinsing Buffer
 - **Catalog number:** 51-6583AZ
- **Relevant identified uses of the substance or mixture and uses advised against**
 - **Sector of Use** SU24 Scientific research and development
- **Details of the supplier of the safety data sheet**
 - **Manufacturer/Supplier:**
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, or exposure, call BD Biosciences at (877)232-8995, or ChemTrec at (800)424-9300.

2 Hazard(s) 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.
- **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**
 - **GHS label elements** Void
 - **Hazard pictograms** Void
 - **Signal word** Void
 - **Hazard statements** Void
- **Classification system**
 - **NFPA ratings (scale 0-4)**

Health = 0
Flammability = 0
Reactivity = 0
- **Other hazards**
 - **Results of PBT and vPvB assessment**
 - **PBT:** Not applicable.
 - **vPvB:** Not applicable.

3 Composition/information on ingredients

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

Printing date 02/17/2015

Reviewed on 02/12/2015

Product name: Rinsing Buffer

(Contd. of page 1)

4 First-aid measures

- **Description of 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** Flush immediately with water for 15 minutes, and consult a doctor.
 - **After swallowing** If symptoms persist consult doctor.
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **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)
- **Advice for firefighters**
 - **Protective equipment:** No special measures required.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
The usual precautionary measures for handling chemicals should be followed.
See Section 8 for information on personal protection equipment.
- **Environmental precautions:** No special measures required.
- **Methods and material for containment and cleaning up:** Wipe up with damp sponge or mop.
- **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

- **Precautions for safe handling** No special measures required.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
 - **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.

USA

(Contd. on page 3)

Printing date 02/17/2015

Reviewed on 02/12/2015

Product name: Rinsing Buffer

(Contd. of page 2)

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**
 - **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.
- **Exposure controls**
 - **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).

9 Physical and chemical properties

- **Information on basic physical and chemical properties**

- **General Information**

- **Appearance:**

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

- **pH-value:** Not determined

· 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.

(Contd. on page 4)

Printing date 02/17/2015

Reviewed on 02/12/2015

Product name: Rinsing Buffer

(Contd. of page 3)

· 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:	Soluble
· Partition coefficient (n-octanol/water):	Not determined
· Viscosity:	
· dynamic:	Not determined
· kinematic:	Not determined
· Solvent content:	
· Organic solvents:	0.0 %
· Water:	89.8 %
· Other information	No further relevant information available.

10 Stability and reactivity

- **Reactivity** No dangerous reactions known
- **Chemical stability**
 - **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:**
 - Incompatible material: strong oxidizers.
 - Incompatible materials: acidic material and metals
- **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

- **Information on toxicological effects**
- **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.

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USA

Printing date 02/17/2015

Reviewed on 02/12/2015

Product name: Rinsing Buffer

(Contd. of page 4)

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.

· **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.

· **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

12 Ecological information

· **Toxicity**

· **Aquatic toxicity:** No further relevant information available.

· **Persistence and degradability** No further relevant information available.

· **Bioaccumulative potential** No further relevant information available.

· **Mobility in soil** 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.

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

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

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

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Reviewed on 02/12/2015

Product name: Rinsing Buffer

(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

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

- **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)**

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**

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

26628-22-8 Sodium azide

A4

- **GHS label elements** Void
- **Hazard pictograms** Void
- **Signal word** Void
- **Hazard statements** Void

- **National regulations**

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

- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

USA

(Contd. on page 7)

Printing date 02/17/2015

Reviewed on 02/12/2015

Product name: Rinsing Buffer

(Contd. of page 6)

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.

· **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)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

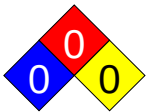
NFPA: National Fire Protection Association (USA)

USA

1 Identification

- **Product identifier**
 - **Product name:** *FITC anti-BrdU monoclonal antibody*
 - **Catalog number:** 51-6584AZ
- **Relevant identified uses of the substance or mixture and uses advised against**
 - **Sector of Use** SU24 Scientific research and development
- **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, or exposure, call BD Biosciences at (877)232-8995, or ChemTrec at (800)424-9300.

2 Hazard(s) 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.
- **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**
 - **GHS label elements** Void
 - **Hazard pictograms** Void
 - **Signal word** Void
 - **Hazard statements** Void
- **Classification system**
 - **NFPA ratings (scale 0-4)**

Health = 0
Flammability = 0
Reactivity = 0
- **Other hazards**
 - **Results of PBT and vPvB assessment**
 - **PBT:** Not applicable.
 - **vPvB:** Not applicable.

3 Composition/information on ingredients

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

Printing date 02/17/2015

Reviewed on 02/12/2015

Product name: FITC anti-BrdU monoclonal antibody

(Contd. of page 1)

4 First-aid measures

- **Description of 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** Flush immediately with water for 15 minutes, and consult a doctor.
 - **After swallowing** If symptoms persist consult doctor.
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **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)
- **Advice for firefighters**
 - **Protective equipment:** No special measures required.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
The usual precautionary measures for handling chemicals should be followed.
See Section 8 for information on personal protection equipment.
- **Environmental precautions:** No special measures required.
- **Methods and material for containment and cleaning up:** Wipe up with damp sponge or mop.
- **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

- **Precautions for safe handling** No special measures required.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
 - **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.

USA

(Contd. on page 3)

Printing date 02/17/2015

Reviewed on 02/12/2015

Product name: FITC anti-BrdU monoclonal antibody

(Contd. of page 2)

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**
 - **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.
- **Exposure controls**
 - **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).

9 Physical and chemical properties

- **Information on basic physical and chemical properties**

- **General Information**

- **Appearance:**

· Form:	Liquid
· Color:	Yellow
· Odor:	Odorless
· Odour threshold:	Not determined

- **pH-value:** Not determined

· 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.

(Contd. on page 4)

Printing date 02/17/2015

Reviewed on 02/12/2015

Product name: FITC anti-BrdU monoclonal antibody

(Contd. of page 3)

· 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:	Soluble
· Partition coefficient (n-octanol/water):	Not determined
· Viscosity:	
· dynamic:	Not determined
· kinematic:	Not determined
· Solvent content:	
· Organic solvents:	0.0 %
· Water:	89.8 %
· Other information	No further relevant information available.

10 Stability and reactivity

- **Reactivity** No dangerous reactions known
- **Chemical stability**
 - **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:**
 - Incompatible material: strong oxidizers.
 - Incompatible materials: acidic material and metals
- **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

- **Information on toxicological effects**
- **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.

(Contd. on page 5)

USA

Printing date 02/17/2015

Reviewed on 02/12/2015

Product name: FITC anti-BrdU monoclonal antibody

(Contd. of page 4)

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.

· **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.

· **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

12 Ecological information

· **Toxicity**

· **Aquatic toxicity:** No further relevant information available.

· **Persistence and degradability** No further relevant information available.

· **Bioaccumulative potential** No further relevant information available.

· **Mobility in soil** 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.

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

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

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

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Printing date 02/17/2015

Reviewed on 02/12/2015

Product name: FITC anti-BrdU monoclonal antibody

(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

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

- **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

7558-80-7 sodium phosphate, monobasic

26628-22-8 Sodium azide

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**

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

26628-22-8 Sodium azide

A4

- **GHS label elements** Void
- **Hazard pictograms** Void
- **Signal word** Void
- **Hazard statements** Void

- **National regulations**

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

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Printing date 02/17/2015

Reviewed on 02/12/2015

Product name: FITC anti-BrdU monoclonal antibody

(Contd. of page 6)

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.**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.

· **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)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

NFPA: National Fire Protection Association (USA)

USA