

### 1 Identification of substance:

- **Product name:** *Probe Analysis Cards (PAC)*  
*(Affirm Sample VP III Kit)*
- **Catalog number:** 446252
- **Manufacturer/Supplier:**  
BD Diagnostic Systems  
7 Loveton Circle  
Sparks, MD 21152  
Tel: (410) 771-0100 or (800) 638-8663
- **Information department:** Technical Services
- **Emergency information:**  
In case of a chemical emergency, spill, fire, exposure, or accident contact BD Diagnostic Systems at (410)771-0100 or (800)638-8663, or ChemTrec at (800)424-9300.

### 2 Composition/Data on components:

- **Chemical characterization**
- **Description:** Mixture consisting of the following components.

· **Dangerous components:**

|            |              |      |
|------------|--------------|------|
| 26628-22-8 | sodium azide | 0.1% |
|------------|--------------|------|

### 3 Hazards identification

· **Hazard description:**



Xn Harmful

· **Information pertaining to particular dangers for man and environment**

R 22 Harmful if swallowed.

· **Classification system**

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

· **NFPA ratings (scale 0-4)**



Health = 2  
Fire = 0  
Reactivity = 0

### 4 First aid measures

· **General information**

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

· **After inhalation** Supply fresh air; consult doctor in case of complaints.

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

· **After eye contact** Rinse opened eye for 15 minutes under running water. Then consult a doctor.

· **After swallowing** Immediately call a doctor.

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· **Information for doctor** Show this product label or this MSDS.

### 5 Fire fighting measures

- **Suitable extinguishing agents**  
CO<sub>2</sub>, ABC multipurpose dry chemical or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Protective equipment:** No special measures required.

### 6 Accidental release measures

- **Person-related safety precautions:** Not required.
- **Measures for environmental protection:** Wipe up with damp sponge or mop.
- **Measures for cleaning/collecting:** No special measures required.
- **Additional information:** No dangerous substances are released.

### 7 Handling and storage

- **Handling**
- **Information for safe handling:** No special measures required.
- **Information about protection against explosions and fires:** No special measures required.
- **Storage**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **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:** Do not gas tight seal receptacle.

### 8 Exposure controls and personal protection

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

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

**26628-22-8 sodium azide**

|     |  |
|-----|--|
| REL | Short-term value: C 0.3** mg/m <sup>3</sup> , C 0.1* ppm<br>*as HN <sub>3</sub> vapor; **as NaN <sub>3</sub>   |
| TLV | Short-term value: C 0.29** mg/m <sup>3</sup> , C 0.11* ppm<br>*as HN <sub>3</sub> vapor; **as NaN <sub>3</sub> |

- **Additional information:** The lists that were valid during the creation were used as basis.
- **Personal Protective Equipment**
- **General protective and hygienic measures**  
The usual precautionary measures for handling chemicals should be followed.
- **Breathing equipment:**  
In case of brief exposure, use a chemical fume hood or a NIOSH/MSHA-approved respirator.

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**Product name: Probe Analysis Cards (PAC)**  
**(Affirm Sample VP III Kit)**

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**· Protection of hands:**



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

**· Eye protection:** Safety glasses

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

**9 Physical and chemical properties:**

**· General Information**

|               |                                    |
|---------------|------------------------------------|
| <b>Form:</b>  | Solid.                             |
| <b>Color:</b> | According to product specification |
| <b>Odor:</b>  | Characteristic                     |

**· Change in condition**

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

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

**· Flash point:** Not applicable

**· Flammability (solid, gaseous)** Product is not flammable.

**· Danger of explosion:** Forms very sensitive explosive metallic compounds.

**· Density:** Not determined

**· Solubility in / Miscibility with**

**Water:** Insoluble

**· Solvent content:**

**· Solids content:** 100.0 %

**10 Stability and reactivity**

**· Thermal decomposition / conditions to be avoided:**

No decomposition if used according to specifications.

**· Materials to be avoided:**

Incompatible material: strong oxidizers.

Incompatible materials: acidic material and metals

**· Dangerous reactions** No dangerous reactions known

**· Dangerous products of decomposition:**

Nitrogen oxides (NO<sub>x</sub>)

Ammonia (NH<sub>4</sub>)

Carbon dioxide (CO<sub>2</sub>)

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**Product name: Probe Analysis Cards (PAC)**  
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**· Additional information:**

Sodium azide is present in this product. Contact with acidic solutions and metal compounds over time may form potentially explosive metal azides. Should any of this material be introduced into a sanitary sewer system, flush with copious amounts of water.

**11 Toxicological information****· Acute toxicity:****· LD/LC50 values that are relevant for classification:****26628-22-8 sodium azide**

Oral LD50 27 mg/kg (rat)

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

Harmful

The product shows the following dangers according to internally approved calculation methods for preparations:

**12 Ecological information:****· Ecotoxicological effects:****· Other information:**

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

**· General notes:** Water hazard class 1 (Self-assessment): slightly hazardous for water.**13 Disposal considerations****· Product:****· Recommendation**

Smaller quantities can be disposed of with solid waste.

Dispose of material in accordance with federal (40 CFR 261.3), 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****· DOT regulations:****· Hazard class:** -

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USA

**Product name: Probe Analysis Cards (PAC)**  
**(Affirm Sample VP III Kit)**

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· **Land transport ADR/RID (cross-border)**  
· **ADR/RID class:** -

· **Maritime transport IMDG:**  
· **IMDG Class:** -  
· **Marine pollutant:** No

· **Air transport ICAO-TI and IATA-DGR:**  
· **ICAO/IATA Class:** -

### 15 Regulations

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

26628-22-8 | sodium azide

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

26628-22-8 | sodium azide

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

26628-22-8 | sodium azide

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

None of the ingredients is listed.

· **California Proposition 65 - Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

· **California Proposition 65 - Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

· **California Proposition 65 - Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

· **Carcinogenicity categories**

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

None of the ingredients is listed.

· **NTP (National Toxicology Program)**

None of the ingredients is listed.

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

26628-22-8 | sodium azide

A4

· **Product related hazard information:**

Observe the general safety regulations when handling chemicals

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

· **Hazard symbols:**

Xn Harmful

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

sodium azide

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**Material Safety Data Sheet**  
*acc. to ISO/DIS 11014*

Printing date 01/11/2006

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**Product name: Probe Analysis Cards (PAC)**  
**(Affirm Sample VP III Kit)**

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· **Risk phrases:**

22 Harmful if swallowed.

· **Safety phrases:**

2 Keep out of the reach of children.

13 Keep away from food, drink and animal feedingstuffs.

36 Wear suitable protective clothing.

46 If swallowed, seek medical advice immediately and show this container or label.

**16 Other information:**

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

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

· **Contact:** Technical Service Representative

USA

**1 Identification of substance:**

- **Product name:** Lysis Solution  
(Affirm Sample VP III Assay Kit)
- **Catalog number:** 446252
- **Manufacturer/Supplier:**  
BD Diagnostic Systems  
7 Loveton Circle  
Sparks, MD 21152  
Tel: (410) 771-0100 or (800) 638-8663
- **Information department:** Technical Services
- **Emergency information:**  
In case of a chemical emergency, spill, fire, exposure, or accident contact BD Diagnostic Systems at (410)771-0100 or (800)638-8663, or ChemTrec at (800)424-9300.

**2 Composition/Data on components:**

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

**3 Hazards identification**

- **Hazard description:**  
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.
- **NFPA ratings (scale 0-4)**

**4 First aid measures**

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

**Product name: Lysis Solution**  
**(Affirm Sample VP III Assay Kit)**

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### 5 Fire fighting measures

- **Suitable extinguishing agents**  
CO<sub>2</sub>, ABC multipurpose dry chemical or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Protective equipment:** No special measures required.

### 6 Accidental release measures

- **Person-related safety precautions:** Not required.
- **Measures for environmental protection:** Wipe up with damp sponge or mop.
- **Measures for cleaning/collecting:** No special measures required.
- **Additional information:** No dangerous substances are released.

### 7 Handling and storage

- **Handling**
  - **Information for safe handling:** No special measures required.
  - **Information about protection against explosions and fires:** No special measures required.
- **Storage**
  - **Requirements to be met by storerooms and receptacles:** No special requirements.
  - **Information about storage in one common storage facility:** Store away from oxidizing agents.
  - **Further information about storage conditions:** None.

### 8 Exposure controls and personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Components with limit values that require monitoring at the workplace:**  
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Additional information:** The lists that were valid during the creation were used as basis.
- **Personal Protective Equipment**
  - **General protective and hygienic measures**  
The usual precautionary measures for handling chemicals should be followed.
  - **Breathing equipment:**  
In case of brief exposure, use a chemical fume hood or a NIOSH/MSHA-approved respirator.
  - **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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**Product name: Lysis Solution**  
**(Affirm Sample VP III Assay Kit)**

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**9 Physical and chemical properties:****· General Information**

**Form:** Liquid  
**Color:** Colorless  
**Odor:** Odorless

**· Change in condition**

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

**· Flash point:** Not applicable

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

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

**· Density:** Not determined

**· Solubility in / Miscibility with**  
**Water:** Partly soluble

**10 Stability and reactivity**

- Thermal decomposition / conditions to be avoided:**  
No decomposition if used according to specifications.
- Materials to be avoided:** Incompatible material: strong oxidizers.
- Dangerous reactions:** No dangerous reactions known
- Dangerous products of decomposition:** No dangerous decomposition products known.

**11 Toxicological information**

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

**12 Ecological information:**

- Ecotoxicological effects:**
- Other information:**  
The ecological effects have not been thoroughly investigated, but currently none have been identified.
- General notes:** Water hazard class 1 (Self-assessment): slightly hazardous for water.



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**Product name: Lysis Solution**  
(Affirm Sample VP III Assay Kit)

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### 13 Disposal considerations

- **Product:**
- **Recommendation**  
Smaller quantities can be disposed of with solid waste.  
Dispose of material in accordance with federal (40 CFR 261.3), 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

- **DOT regulations:**
- **Hazard class:** -
- **Land transport ADR/RID (cross-border)**
- **ADR/RID class:** -
- **Maritime transport IMDG:**
- **IMDG Class:** -
- **Marine pollutant:** No
- **Air transport ICAO-TI and IATA-DGR:**
- **ICAO/IATA Class:** -

· **Transport/Additional information:**  
If a dashed line appears in the Hazard Class section for the type of transportation, this indicates the product is not regulated for transportation. However, if a Hazard Class Number is listed the product is regulated.

### 15 Regulations

· **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)**

|          |                        |
|----------|------------------------|
| 151-21-3 | sodium dodecyl sulfate |
|----------|------------------------|

|  |         |
|--|---------|
|  | glycine |
|--|---------|

|         |      |
|---------|------|
| 60-00-4 | EDTA |
|---------|------|

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

None of the ingredients is listed.

· **California Proposition 65 - Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

· **California Proposition 65 - Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

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Printing date 01/11/2006

Reviewed on 11/20/2003

**Product name: Lysis Solution**  
**(Affirm Sample VP III Assay Kit)**

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**· California Proposition 65 - Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

**· Carcinogenicity categories**

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

None of the ingredients is listed.

**· NTP (National Toxicology Program)**

None of the ingredients is listed.

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

None of the ingredients is listed.

**· Product related hazard information:**

Observe the general safety regulations when handling chemicals

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

**16 Other information:**

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

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

**· Contact: Technical Service Representative**

**1 Identification of substance:**

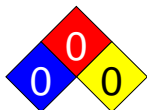
- **Product name:** Buffer Solution  
(Affirm Sample VP III Assay Kit)
- **Catalog number:** 446252
- **Manufacturer/Supplier:**  
BD Diagnostic Systems  
7 Loveton Circle  
Sparks, MD 21152  
Tel: (410) 771-0100 or (800) 638-8663
- **Information department:** Technical Services
- **Emergency information:**  
In case of a chemical emergency, spill, fire, exposure, or accident contact BD Diagnostic Systems at (410)771-0100 or (800)638-8663, or ChemTrec at (800)424-9300.

**2 Composition/Data on components:**

- **Chemical characterization**
- **Description:** Mixture consisting of the following components.
- **Dangerous components:** Void

**3 Hazards identification**

- **Hazard description:**  
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.
- **NFPA ratings (scale 0-4)**



Health = 0  
Fire = 0  
Reactivity = 0

**4 First aid measures**

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

**Product name: Buffer Solution**  
(Affirm Sample VP III Assay Kit)

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### 5 Fire fighting measures

- **Suitable extinguishing agents**  
CO<sub>2</sub>, ABC multipurpose dry chemical or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Protective equipment:** No special measures required.

### 6 Accidental release measures

- **Person-related safety precautions:** Not required.
- **Measures for environmental protection:** Wipe up with damp sponge or mop.
- **Measures for cleaning/collecting:** No special measures required.
- **Additional information:** No dangerous substances are released.

### 7 Handling and storage

- **Handling**
  - **Information for safe handling:** No special measures required.
  - **Information about protection against explosions and fires:** No special measures required.
- **Storage**
  - **Requirements to be met by storerooms and receptacles:** No special requirements.
  - **Information about storage in one common storage facility:** Store away from oxidizing agents.
  - **Further information about storage conditions:** None.

### 8 Exposure controls and personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Components with limit values that require monitoring at the workplace:**  
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Additional information:** The lists that were valid during the creation were used as basis.
- **Personal Protective Equipment**
  - **General protective and hygienic measures**  
The usual precautionary measures for handling chemicals should be followed.
  - **Breathing equipment:**  
In case of brief exposure, use a chemical fume hood or a NIOSH/MSHA-approved respirator.
  - **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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**Product name: Buffer Solution**  
(Affirm Sample VP III Assay Kit)

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**9 Physical and chemical properties:****· General Information**

**Form:** Liquid  
**Color:** Colorless  
**Odor:** Odorless

**· Change in condition**

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

**· Flash point:** Not applicable

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

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

**· Density:** Not determined

**· Solubility in / Miscibility with Water:** Partly soluble

**10 Stability and reactivity**

- Thermal decomposition / conditions to be avoided:**  
No decomposition if used according to specifications.
- Materials to be avoided:** Incompatible material: strong oxidizers.
- Dangerous reactions:** No dangerous reactions known
- Dangerous products of decomposition:** No dangerous decomposition products known.

**11 Toxicological information**

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

**12 Ecological information:**

- Ecotoxicological effects:**
- Other information:**  
The ecological effects have not been thoroughly investigated, but currently none have been identified.
- General notes:** Water hazard class 1 (Self-assessment): slightly hazardous for water.

**Product name: Buffer Solution**  
(Affirm Sample VP III Assay Kit)

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### 13 Disposal considerations

- **Product:**
- **Recommendation**  
Smaller quantities can be disposed of with solid waste.  
Dispose of material in accordance with federal (40 CFR 261.3), 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

- **DOT regulations:**
- **Hazard class:** -
- **Land transport ADR/RID (cross-border)**
- **ADR/RID class:** -
- **Maritime transport IMDG:**
- **IMDG Class:** -
- **Marine pollutant:** No
- **Air transport ICAO-TI and IATA-DGR:**
- **ICAO/IATA Class:** -

· **Transport/Additional information:**  
If a dashed line appears in the Hazard Class section for the type of transportation, this indicates the product is not regulated for transportation. However, if a Hazard Class Number is listed the product is regulated.

### 15 Regulations

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

|           |                   |
|-----------|-------------------|
| 7647-01-0 | hydrochloric acid |
|-----------|-------------------|

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

|           |                   |
|-----------|-------------------|
| 7647-01-0 | hydrochloric acid |
|-----------|-------------------|

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

|         |             |
|---------|-------------|
| 77-86-1 | trizma base |
|---------|-------------|

|         |      |
|---------|------|
| 60-00-4 | EDTA |
|---------|------|

|           |                   |
|-----------|-------------------|
| 7647-01-0 | hydrochloric acid |
|-----------|-------------------|

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

None of the ingredients is listed.

· **California Proposition 65 - Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

· **California Proposition 65 - Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

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Printing date 01/11/2006

Reviewed on 11/20/2003

**Product name: Buffer Solution**  
**(Affirm Sample VP III Assay Kit)**

(Contd. of page 4)

**· California Proposition 65 - Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

**· Carcinogenicity categories**

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

7647-01-0 | hydrochloric acid

3

**· NTP (National Toxicology Program)**

None of the ingredients is listed.

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

None of the ingredients is listed.

**· Product related hazard information:**

Observe the general safety regulations when handling chemicals

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

**16 Other information:**

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

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

**· Contact:** Technical Service Representative



**1 Identification of substance:**

- **Product name:** *Substrate Solutions*  
*(Affirm Sample VP III Assay Kit)*
- **Catalog number:** 446252
- **Manufacturer/Supplier:**  
BD Diagnostic Systems  
7 Loveton Circle  
Sparks, MD 21152  
Tel: (410) 771-0100 or (800) 638-8663
- **Information department:** Technical Services
- **Emergency information:**  
In case of a chemical emergency, spill, fire, exposure, or accident contact BD Diagnostic Systems at (410)771-0100 or (800)638-8663, or ChemTrec at (800)424-9300.

**2 Composition/Data on components:**

- **Chemical characterization:**
- **CAS No. Description:**  
Not applicable
- **Identification number(s):**
- **EINECS Number:** 2006617
- **EU Number:** 603-003-00-0
- **Chemical characterization**
- **Description:** Mixture consisting of the following components.

**· Dangerous components:**

|         |             |       |
|---------|-------------|-------|
| 67-63-0 | isopropanol | 99.8% |
|---------|-------------|-------|

**3 Hazards identification****· Hazard description:**

*Xi Irritant*  
*F Highly flammable*

**· Information pertaining to particular dangers for man and environment**

*R 11 Highly flammable.*

*R 36 Irritating to eyes.*

**· Classification system**

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

**· NFPA ratings (scale 0-4)**

*Health = 3*  
*Fire = 3*  
*Reactivity = 0*

**Product name: Substrate Solutions**  
**(Affirm Sample VP III Assay Kit)**

(Contd. of page 1)

#### 4 First aid measures

- **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** Rinse opened eye for 15 minutes under running water. Then consult a doctor.
- **After swallowing** Immediately call a doctor.
- **Information for doctor** Show this product label or this MSDS.

#### 5 Fire fighting measures

- **Suitable extinguishing agents**  
CO<sub>2</sub>, ABC multipurpose dry chemical or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Protective equipment:** No special measures required.

#### 6 Accidental release measures

- **Person-related safety precautions:** Not required.
- **Measures for environmental protection:** Wipe up with damp sponge or mop.
- **Measures for cleaning/collecting:** Ensure adequate ventilation.
- **Additional information:**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

#### 7 Handling and storage

- **Handling**
- **Information for safe handling:** Ensure good ventilation/exhaustion at the workplace.
- **Information about protection against explosions and fires:**  
Keep ignition sources away - Do not smoke.  
Protect against electrostatic charges.
- **Storage**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:**  
Do not store together with oxidizing and acidic materials.
- **Further information about storage conditions:** Store in cool, dry conditions in well sealed containers.

#### 8 Exposure controls and personal protection

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

(Contd. on page 3)

**Product name: Substrate Solutions**  
(Affirm Sample VP III Assay Kit)

(Contd. of page 2)

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

**67-63-0 isopropanol**

|     |  |
|-----|--|
| PEL | 980 mg/m <sup>3</sup> , 400 ppm  |
| REL | Short-term value: 1225 mg/m <sup>3</sup> , 500 ppm<br>Long-term value: 980 mg/m <sup>3</sup> , 400 ppm |
| TLV | Short-term value: 984 mg/m <sup>3</sup> , 400 ppm<br>Long-term value: 492 mg/m <sup>3</sup> , 200 ppm  |

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

· **Personal Protective Equipment**

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

· **Breathing equipment:**

In case of brief exposure, use a chemical fume hood or a NIOSH/MSHA-approved respirator.

· **Protection of hands:**



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

· **Eye protection:** Safety glasses

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

**9 Physical and chemical properties:**

· **General Information**

|               |           |
|---------------|-----------|
| <b>Form:</b>  | Liquid    |
| <b>Color:</b> | Colorless |
| <b>Odor:</b>  | Odorless  |

· **Change in condition**

|                                     |                  |
|-------------------------------------|------------------|
| <b>Melting point/Melting range:</b> | -89.5°C (-129°F) |
| <b>Boiling point/Boiling range:</b> | 82°C (180°F)     |

· **Flash point:** 13°C (55°F)

· **Ignition temperature:** 425°C (797°F)

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

· **Density:** Not determined

· **Solubility in / Miscibility with**

**Water:** Soluble

· **Solvent content:**

**Organic solvents:** 99.8 %



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**Product name: Substrate Solutions**  
**(Affirm Sample VP III Assay Kit)**

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**10 Stability and reactivity**

- **Thermal decomposition / conditions to be avoided:**  
No decomposition if used according to specifications.
- **Materials to be avoided:** Incompatible materials: strong acids and oxidizers.
- **Dangerous reactions** No dangerous reactions known
- **Dangerous products of decomposition:** No dangerous decomposition products known.

**11 Toxicological information**

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

**12 Ecological information:**

- **Ecotoxic effects:**
- **Other information:**  
The ecological effects have not been thoroughly investigated, but currently none have been identified.
- **General notes:** Water hazard class 1 (Self-assessment): slightly hazardous for water.

**13 Disposal considerations**

- **Product:**
- **Recommendation**  
Must not be disposed of with solid waste.  
Dispose of material in accordance with federal (40 CFR 261.3), state and local requirements.  
RCRA hazardous waste - RCRA # D001 (ignitable).
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to state and federal regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

USA

(Contd. on page 5)

**Product name: Substrate Solutions**  
**(Affirm Sample VP III Assay Kit)**

(Contd. of page 4)

**14 Transport information****· DOT regulations:**

- **Hazard class:** 3
- **Identification number:** UN1993
- **Packing group:** II
- **Proper shipping name:** FLAMMABLE LIQUID, N.O.S. (ISOPROPANOL)
- **Label:** 3
- **Remarks:** This product can be transported using the "small quantity" exception. This package conforms to 49 CFR 173.4. The Hazard Class, Identification number, and Packing group listed above is for informational purposes only.

**· Land transport ADR/RID (cross-border)**

- **ADR/RID class:** 3 (F1) Flammable liquids
- **Danger code (Kemler):** 33
- **UN-Number:** 1993
- **Packaging group:** II
- **Description of goods:** 1993 FLAMMABLE LIQUID, N.O.S. (ISOPROPANOL)

**· Maritime transport IMDG:**

- **IMDG Class:** 3
- **UN Number:** 1993
- **Label:** 3
- **Packaging group:** II
- **EMS Number:** F-E,S-E
- **Marine pollutant:** No
- **Proper shipping name:** FLAMMABLE LIQUID, N.O.S. (ISOPROPANOL)
- **Remarks:** Limited quantity

**· Air transport ICAO-TI and IATA-DGR:**

- **ICAO/IATA Class:** 3
- **UN/ID Number:** 1993
- **Label:** 3
- **Packaging group:** II

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**Product name: Substrate Solutions**  
**(Affirm Sample VP III Assay Kit)**

(Contd. of page 5)

- **Proper shipping name:** FLAMMABLE LIQUID, N.O.S. (ISOPROPANOL)
- **Remarks:** This product can be transported using the exception: Dangerous Goods in Excepted Quantities. The Hazard class, Identification number, and Packing group listed above is for informational purposes only.

### 15 Regulations

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

None of the ingredients is listed.

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

67-63-0 isopropanol

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

67-63-0 isopropanol

64-19-7 acetic acid

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

None of the ingredients is listed.

· **California Proposition 65 - Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

· **California Proposition 65 - Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

· **California Proposition 65 - Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

· **Carcinogenicity categories**

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

67-63-0 isopropanol

3

· **NTP (National Toxicology Program)**

None of the ingredients is listed.

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

None of the ingredients is listed.

· **Product related hazard information:**

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

· **Hazard symbols:**

Xi Irritant

F Highly flammable

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

isopropanol

· **Risk phrases:**

11 Highly flammable.

36 Irritating to eyes.

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**Product name: Substrate Solutions**  
**(Affirm Sample VP III Assay Kit)**

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**· Safety phrases:**

- 7/9 Keep container tightly closed and in a well-ventilated place.  
16 Keep away from sources of ignition - No smoking.  
24/25 Avoid contact with skin and eyes.  
60 This material and its container must be disposed of as hazardous waste.

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

| Class | Share in % |
|-------|------------|
| II    | 0.1        |
| III   | 99.8       |

**16 Other information:**

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

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

USA

**1 Identification of substance:**

- **Product name:** *Reagent Cassettes*  
*(Affirm Sample VP III Assay Test Kit)*
- **Catalog number:** 446252
- **Manufacturer/Supplier:**  
BD Diagnostic Systems  
7 Loveton Circle  
Sparks, MD 21152  
Tel: (410) 771-0100 or (800) 638-8663
- **Information department:** Technical Services
- **Emergency information:**  
In case of a chemical emergency, spill, fire, exposure, or accident contact BD Diagnostic Systems at (410)771-0100 or (800)638-8663, or ChemTrec at (800)424-9300.

**2 Composition/Data on components:**

- **Chemical characterization**
- **Description:** Mixture consisting of the following components.

| · <b>Dangerous components:</b> |                            |       |
|--------------------------------|----------------------------|-------|
| 7647-01-0                      | hydrochloric acid          | 2.43% |
| 288-32-4                       | imidazole                  | 2.04% |
| 7722-84-1                      | hydrogen peroxide solution | 1.8%  |

**3 Hazards identification**

- **Hazard description:**



Xi Irritant

- **Information pertaining to particular dangers for man and environment**  
R 36/38 Irritating to eyes and skin.
- **Classification system**  
The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.
- **NFPA ratings (scale 0-4)**

Health = 1  
Fire = 0  
Reactivity = 0**4 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.

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USA



**Product name: Reagent Cassettes**  
**(Affirm Sample VP III Assay Test Kit)**

(Contd. of page 1)

- **After eye contact**  
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing** If symptoms persist consult doctor.

### 5 Fire fighting measures

- **Suitable extinguishing agents**  
CO<sub>2</sub>, ABC multipurpose dry chemical or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards caused by the material, its products of combustion or resulting gases:**  
During heating or in case of fire toxic gases may be produced.
- **Protective equipment:** No special measures required.

### 6 Accidental release measures

- **Person-related safety precautions:** Not required.
- **Measures for environmental protection:** No special measures required.
- **Measures for cleaning/collecting:** No special measures required.
- **Additional information:** No dangerous substances are released.

### 7 Handling and storage

- **Handling**
- **Information for safe handling:** No special measures required.
- **Information about protection against explosions and fires:** No special measures required.
- **Storage**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Store away from oxidizing agents.
- **Further information about storage conditions:** None.

### 8 Exposure controls and personal protection

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

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

**7647-01-0 hydrochloric acid**

|     |  |
|-----|--|
| PEL | Short-term value: C 7 mg/m <sup>3</sup> , C 5 ppm    |
| REL | Short-term value: C 7 mg/m <sup>3</sup> , C 5 ppm    |
| TLV | Short-term value: C 2.98 mg/m <sup>3</sup> , C 2 ppm |

**7722-84-1 hydrogen peroxide solution**

|     |                               |
|-----|-------------------------------|
| PEL | 1.4 mg/m <sup>3</sup> , 1 ppm |
| REL | 1.4 mg/m <sup>3</sup> , 1 ppm |
| TLV | 1.4 mg/m <sup>3</sup> , 1 ppm |

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

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**Product name: Reagent Cassettes**  
**(Affirm Sample VP III Assay Test Kit)**

(Contd. of page 2)

- **Personal Protective Equipment**
- **General protective and hygienic measures**  
The usual precautionary measures for handling chemicals should be followed.
- **Breathing equipment:**  
In case of brief exposure, use a chemical fume hood or a NIOSH/MSHA-approved respirator.
- **Protection of hands:**



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

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

### 9 Physical and chemical properties:

· **General Information**

|               |           |
|---------------|-----------|
| <b>Form:</b>  | Liquid    |
| <b>Color:</b> | Colorless |
| <b>Odor:</b>  | Odorless  |

· **Change in condition**

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

· **Flash point:** Not applicable

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

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

· **Density:** Not determined

· **Solubility in / Miscibility with**

**Water:** Soluble

· **pH-value:** Slightly acidic

· **Solvent content:**

**Organic solvents:** 0.0 %

### 10 Stability and reactivity

- **Thermal decomposition / conditions to be avoided:**  
No decomposition if used according to specifications.
- **Dangerous reactions** No dangerous reactions known
- **Dangerous products of decomposition:** No dangerous decomposition products known.

USA

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**Product name: Reagent Cassettes**  
**(Affirm Sample VP III Assay Test Kit)**

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**11 Toxicological information**

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

**12 Ecological information:**

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

**13 Disposal considerations**

- **Product:**
- **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 261.3), state and local requirements.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to state and federal regulations.

**14 Transport information**

- **DOT regulations:**
- **Hazard class:** -
- **Land transport ADR/RID (cross-border)**
- **ADR/RID class:** -
- **Maritime transport IMDG:**
- **IMDG Class:** -
- **Marine pollutant:** No
- **Air transport ICAO-TI and IATA-DGR:**
- **ICAO/IATA Class:** -

USA

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**Product name: Reagent Cassettes**  
**(Affirm Sample VP III Assay Test Kit)**

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**15 Regulations**

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

|           |                            |
|-----------|----------------------------|
| 7647-01-0 | hydrochloric acid          |
| 7722-84-1 | hydrogen peroxide solution |

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

|           |                   |
|-----------|-------------------|
| 7647-01-0 | hydrochloric acid |
|-----------|-------------------|

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

|           |                            |
|-----------|----------------------------|
| 7647-01-0 | hydrochloric acid          |
| 9000-70-8 | Gelatin                    |
| 288-32-4  | imidazole                  |
| 7722-84-1 | hydrogen peroxide solution |
| 77-86-1   | trizma base                |
| 60-00-4   | EDTA                       |
| 77-92-9   | citric acid                |
| 56-81-5   | glycerol                   |
| 75-12-7   | formamide                  |

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

None of the ingredients is listed.

· **California Proposition 65 - Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

· **California Proposition 65 - Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

· **California Proposition 65 - Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

· **Carcinogenicity categories**

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

|           |                            |   |
|-----------|----------------------------|---|
| 7647-01-0 | hydrochloric acid          | 3 |
| 7722-84-1 | hydrogen peroxide solution | 3 |

· **NTP (National Toxicology Program)**

None of the ingredients is listed.

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

|           |                            |    |
|-----------|----------------------------|----|
| 7722-84-1 | hydrogen peroxide solution | A3 |
|-----------|----------------------------|----|

· **Product related hazard information:**

Observe the general safety regulations when handling chemicals  
The product has been classified and marked in accordance with regulations on hazardous materials.

· **Hazard symbols:**

Xi Irritant

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

hydrochloric acid  
imidazole

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**Product name: Reagent Cassettes**  
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· **Risk phrases:**

36/38 Irritating to eyes and skin.

· **Safety phrases:**

25 Avoid contact with eyes.

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

37 Wear suitable gloves.

46 If swallowed, seek medical advice immediately and show this container or label.

**16 Other information:**

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

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

· **Contact:** Technical Service Representative

USA