

**1 Identification of substance:**

- **Product name:** Supplement VX  
(Supplement VX w/Reconstituting Fluid Kit)
- **Catalog number:** 233542
- **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:**

7048-04-6	L - Cysteine Hydrochloride	51.9%
7647-01-0	hydrochloric acid	0.5%

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

C Corrosive

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

R 34 Causes burns.  
R 36/37/38 Irritating to eyes, respiratory system 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 = 2  
Fire = 0  
Reactivity = 0

**4 First aid measures**

- **General information** Immediately remove contaminated clothing.
- **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.

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· **After swallowing** Drink copious amounts of water and provide fresh air. Immediately call a 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:** Wipe up with damp sponge or mop.
- **Measures for cleaning/collecting:**  
Use neutralizing agent.  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders).

### 7 Handling and storage

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

### 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:**

**1310-58-3 potassium hydroxide**

REL 2 mg/m<sup>3</sup>

TLV Short-term value: C 2 mg/m<sup>3</sup>

**1310-73-2 sodium hydroxide**

PEL 2 mg/m<sup>3</sup>

REL Short-term value: C 2 mg/m<sup>3</sup>

TLV Short-term value: C 2 mg/m<sup>3</sup>

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

- **Personal Protective Equipment**
- **General protective and hygienic measures**  
Keep away from foodstuffs, beverages and feed.

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Immediately remove all soiled and contaminated clothing.  
Wash hands before breaks and at the end of work.  
Avoid contact with the eyes and skin.

· **Breathing equipment:**

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>	Solid. Powder
<b>Color:</b>	Pink
<b>Odor:</b>	Characteristic

· **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:** 0.75 - 2.5

· **Solvent content:**

· **Solids content:** 100 %

### 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:**

Carbon monoxide (CO) and carbon dioxide (CO<sub>2</sub>)

Chlorine (Cl)

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

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Sulfur oxides (SO<sub>x</sub>)

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### 11 Toxicological information

- **Acute toxicity:**
- **Primary irritant effect:**
  - **on the skin:** Caustic effect on skin and mucous membranes.
  - **on the eye:** Strong caustic effect.
- **Sensitization:** No sensitizing effects known.
- **Subacute to chronic toxicity:** Target organs: respiratory tract, eyes, kidneys, and skin.
- **Additional toxicological information:**

Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

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:** 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 # D002 (corrosive).
- **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

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

**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)**

52-90-4	L-cysteine
56-85-9	L-Glutamine
56-89-3	L-cystine
	adenine sulfate
1310-58-3	potassium hydroxide
1310-73-2	sodium hydroxide
154-87-0	cocarboxylase
	guanine hydrochloride
2338-05-8	Ferric Citrate
	p-aminobenzoic acid
7647-01-0	hydrochloric acid
	nicotinamide adenine dinucleotide

- **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)**

	p-aminobenzoic acid	3
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.

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

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· **Product related hazard information:**

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

· **Hazard symbols:**

*C Corrosive*

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

*L - Cysteine Hydrochloride  
hydrochloric acid*

· **Risk phrases:**

*34 Causes burns.  
36/37/38 Irritating to eyes, respiratory system and skin.*

· **Safety phrases:**

*26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
45 In case of accident or if you feel unwell, seek medical advice immediately.  
60 This material and its container must be disposed of as hazardous waste.*

**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:**

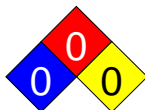
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- **Manufacturer/Supplier:**  
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- **Information department:** Technical Services
- **Emergency information:**  
In case of a chemical emergency, spill, fire, exposure, or accident contact BD Diagnostic 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)**



Health = 0  
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.
- **After eye contact** Rinse opened eye for 15 minutes under running water. Then consult a doctor.
- **After swallowing** If symptoms persist consult doctor.

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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:** Ensure good ventilation/exhaustion at the workplace.
  - **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



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

**Form:** Liquid  
**Color:** Colorless  
**Odor:** Characteristic

**· Change in condition** Undetermined  
**· 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

**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.

**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:**  
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:** Generally not hazardous for water.



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Reviewed on 05/13/2003

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### 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.
- **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)**  
50-99-7 | dextrose
- **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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**· 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.

**· National regulations**

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

**16 Other information:**

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

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

**· Contact:** Technical Service Representative