











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

- **Product identifier**
- **Product name:** *FACS LYSING SOLUTION (IVD/10X-500 TESTS)*
- **Catalog number:** 349202
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
 Becton, Dickinson and Company  
 BD Biosciences  
 2350 Qume Drive  
 San Jose, CA 95131  
 Tel: (408)232-8995  
 bdbiosciences.com
- **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 Composition/information on ingredients

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

CAS NO.	Description	%
111-46-6	diethylene glycol	 Xn R22  H302 30.0%
50-00-0	formaldehyde	 T R23/24/25  C R34  Xn R40  Xi R43 Carc. Cat. 3  H301; H311; H331  H351  H314  H317 9.99%

### 3 Hazards identification

- **Classification of the substance or mixture**



GHS08 Health hazard

H351 Suspected of causing cancer.



GHS07


- H302 Harmful if swallowed.
- H312 Harmful in contact with skin.
- H332 Harmful if inhaled.
- H315 Causes skin irritation.
- H319 Causes serious eye irritation.
- H317 May cause an allergic skin reaction.

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H335+H336 May cause respiratory irritation. May cause drowsiness or dizziness.

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

 Xn; Harmful

R20/21/22-40: Harmful by inhalation, in contact with skin and if swallowed. Limited evidence of a carcinogenic effect.

 Xi; Irritant

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

· **Classification system:**

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

· **Label elements**

· **Labelling according to EU guidelines:**

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

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

Xn Harmful

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

formaldehyde  
diethylene glycol

· **Risk phrases:**

20/21/22 Harmful by inhalation, in contact with skin and if swallowed.

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

40 Limited evidence of a carcinogenic effect.

43 May cause sensitization by skin contact.

· **Safety phrases:**

3 Keep in a cool place.

9 Keep container in a well-ventilated place.

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

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

36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

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

· **Classification system**

· **NFPA ratings (scale 0-4)**



Health = 2

Flammability = 1

Reactivity = 0

#### 4 First aid measures

· **General information**

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

· **After inhalation**

Supply fresh air and seek medical advice.

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

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

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- **After eye contact** Rinse opened eye for 15 minutes under running water. Then consult a doctor.
- **After swallowing** Seek immediate medical advice.

### 5 Firefighting measures

- **Suitable extinguishing agents** Use fire fighting measures that suit the environment.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Protective equipment:** No special measures required.

### 6 Accidental release measures

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

### 7 Handling and storage

- **Handling**
- **Precautions for safe handling**  
 Ensure good ventilation/exhaustion at the workplace.  
 Prevent formation of aerosols.
- **Information about protection against explosions and fires:** No special measures required.
- **Storage**
- **Requirements to be met by storerooms and receptacles:** 2 - 25 C
- **Information about storage in one common storage facility:** Store away from oxidizing agents.
- **Further information about storage conditions:** Store in cool, dry conditions in well sealed containers.
- **Specific end use(s)** No further relevant information available.

### 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Components with limit values that require monitoring at the workplace:**

**111-46-6 diethylene glycol**

WEEL () 10 mg/m<sup>3</sup>

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**50-00-0 formaldehyde**

PEL ()	Short-term value: 2 ppm Long-term value: 0.75 ppm see 29 CFR 1910.1048(c)
REL ()	Short-term value: C 0.1* ppm Long-term value: 0.016 ppm *15-min; See Pocket Guide App. A
TLV ()	Short-term value: C 0.37 mg/m <sup>3</sup> , C 0.3 ppm SEN

- **Additional information:** The lists that were valid during the creation were used as basis.
- **Personal Protective Equipment**
- **General protective and hygienic measures**  
Keep away from foodstuffs, beverages and feed.  
Immediately remove all soiled and contaminated clothing.  
Wash hands before breaks and at the end of work.  
Avoid contact with the eyes and skin.
- **Protection of hands:**



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

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

**9 Physical and chemical properties**

- **General Information**
- **Appearance:**
  - Form:** Liquid
  - Color:** According to product specification
  - Odor:** Characteristic
- **pH-value:** 7.2-7.6
- **Change in condition**
  - Melting point/Melting range:** Not determined
  - Boiling point/Boiling range:** -21°C (-6 °F)
- **Flash point:** 146°C (295 °F)
- **Ignition temperature:** 225°C (437 °F)
- **Auto igniting:** Product is not self igniting.
- **Danger of explosion:** Product does not present an explosion hazard.
- **Explosion limits:**
  - Lower:** 0.7 Vol %
  - Upper:** 73.0 Vol %
- **Vapor pressure at 20°C (68 °F):** 23 hPa (17 mm Hg)
- **Density:** Not determined

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- **Solubility in / Miscibility with Water:** *Not miscible or difficult to mix*
- **Solvent content:**
  - Organic solvents:** 40.0 %
  - Water:** 56.5 %
- **Solids content:** 3.5 %
- **Other information** *No further relevant information available.*

### 10 Stability and reactivity

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

### 11 Toxicological information

- **Acute toxicity:**

- **LD/LC50 values that are relevant for classification:**

#### 111-46-6 diethylene glycol

Oral	LD50	12565 mg/kg (rat)
Dermal	LD50	11890 mg/kg (rbt)

#### 50-00-0 formaldehyde

Oral	LD50	42 mg/kg (rat)
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- **Primary irritant effect:**
- **on the skin:** *Irritant to skin and mucous membranes.*
- **on the eye:** *Irritating effect.*
- **Sensitization:** *No sensitizing effects known.*
- **Additional toxicological information:**

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

### 12 Ecological information

- **Aquatic toxicity:** *No further relevant information available.*
- **Persistence and degradability** *No further relevant information available.*
- **Behavior in environmental systems:**
- **Bioaccumulative potential** *No further relevant information available.*
- **Additional ecological information:**
- **General notes:** *Water hazard class 2 (Self-assessment): hazardous for water.*

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### 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation**  
 Dispose of material in accordance with federal (40 CFR 261), state and local requirements.  
 This product is not considered a RCRA hazardous waste.  
 Must not be disposed of with solid 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

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

### 15 Regulatory information

· <b>SARA Section 355 (extremely hazardous substances)</b>
50-00-0 formaldehyde
· <b>SARA Section 313 (specific toxic chemical listings)</b>
50-00-0 formaldehyde
· <b>TSCA (Toxic Substances Control Act)</b>
7732-18-5 water
111-46-6 diethylene glycol
50-00-0 formaldehyde
68-04-2 Sodium citrate

- **California Proposition 65 - Chemicals known to cause cancer**  
 Formaldehyde is toxic, allergenic, and is known to the state of California to cause cancer. Note: Formaldehyde poses a cancer threat through inhalation of the gas or vapor.

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50-00-0 formaldehyde

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

None of the ingredients is listed.

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

None of the ingredients is listed.

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

None of the ingredients is listed.

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

50-00-0 formaldehyde

I

**· NTP (National Toxicology Program)**

50-00-0 formaldehyde

R

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

50-00-0 formaldehyde

A2

**· Product related hazard information:**

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

**· Hazard symbols:**

Xn Harmful

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

formaldehyde

diethylene glycol

**· Risk phrases:**

20/21/22 Harmful by inhalation, in contact with skin and if swallowed.

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

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

Class	Share in %
Water	56.5
I	10.0
NK	30.0

**· Water hazard class:** Water hazard class 2 (Self-assessment): 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

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*the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.*

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

· **Contact:** Technical Service Representative

· **Abbreviations and acronyms:**

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

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

*IMDG: International Maritime Code for Dangerous Goods*

*IATA: International Air Transport Association*

*ICAO: International Civil Aviation Organization*

*ACGIH: American Conference of Governmental Industrial Hygienists*

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

*NFPA: National Fire Protection Association (USA)*

*LC50: Lethal concentration, 50 percent*

*LD50: Lethal dose, 50 percent*

USA