



## Safety Data Sheet acc. to OSHA HCS

Date Prepared: 03/14/2014

Reviewed On: 03/14/2014

**Product Name: BD CytoRich™ Clear Preservative Fluid**

(Contd. of page 1)

- P241 Use explosion-proof electrical/ventilating/lighting/equipment.
- P280 Wear protective gloves/protective clothing/eye protection/face protection.
- P240 Ground/bond container and receiving equipment.
- P233 Keep container tightly closed.
- P242 Use only non-sparking tools.
- P243 Take precautionary measures against static discharge.
- P303+P361+P353 **IF ON SKIN (or hair):** Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
- P370+P378 In case of fire: Use for extinction: CO2, powder or water spray.
- P403+P235 Store in a well-ventilated place. Keep cool.
- P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **NFPA ratings (scale 0-4)**



Health = 0  
Flammability = 3  
Reactivity = 0

· **HMIS ratings (scale 0-4)**



HEALTH 0 Health = 0  
FIRE 3 Flammability = 3  
REACTIVITY 0 Reactivity = 0

- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

### 3 Composition/information on ingredients

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

· **Dangerous Components:**

CAS: 64-17-5 EINECS: 200-578-6	ethanol	F R10	21.7%
CAS: 67-56-1 EINECS: 200-659-6	methanol	T R23/24/25-39/23/24/25; F R11	1.2%
CAS: 67-63-0 EINECS: 200-661-7	isopropanol	Xi R36; F R11 R67	1.1%

- **Additional information** Risk phrases refer to section 15.

### 4 First-aid measures

- **Description of first aid measures**
- **General information** Immediately remove contaminated clothing.

(Contd. on page 3)



## Safety Data Sheet acc. to OSHA HCS

Date Prepared: 03/14/2014

Reviewed On: 03/14/2014

**Product Name: BD CytoRich™ Clear Preservative Fluid**

(Contd. of page 2)

- **After inhalation**  
Supply fresh air and seek medical advice.  
In case of unconsciousness place patient on side position for transportation.
- **After skin contact** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact**  
Rinse opened eye for 15 minutes under running water. Then consult a doctor.
- **After swallowing**  
Do not induce vomiting; immediately call for medical help.  
Drink copious amounts of water and provide fresh air. Immediately call a doctor.
- **Information for doctor** Show this product label or this MSDS.
- **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**  
CO<sub>2</sub>, ABC multipurpose dry chemical or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **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:**  
Wear fully protective suit.  
Wear self-contained respiratory protective device.

### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
Use respiratory protective device.  
Wear protective clothing.
- **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.

US

(Contd. on page 4)



Date Prepared: 03/14/2014

Reviewed On: 03/14/2014

Product Name: **BD CytoRich™ Clear Preservative Fluid**

(Contd. of page 3)

### 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:**  
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:** 15 - 30 °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 Section 7.
- **Control parameters**

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

**64-17-5 ethanol**

PEL	1900 mg/m <sup>3</sup> , 1000 ppm
REL	1900 mg/m <sup>3</sup> , 1000 ppm
TLV	1880 mg/m <sup>3</sup> , 1000 ppm

**67-56-1 methanol**

PEL	260 mg/m <sup>3</sup> , 200 ppm
REL	Short-term value: 325 mg/m <sup>3</sup> , 250 ppm Long-term value: 260 mg/m <sup>3</sup> , 200 ppm Skin
TLV	Short-term value: 328 mg/m <sup>3</sup> , 250 ppm Long-term value: 262 mg/m <sup>3</sup> , 200 ppm Skin; BEI

**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 Long-term value: 980 mg/m <sup>3</sup> , 400 ppm

(Contd. on page 5)

## Safety Data Sheet

acc. to OSHA HCS

Date Prepared: 03/14/2014

Reviewed On: 03/14/2014

**Product Name: BD CytoRich™ Clear Preservative Fluid**

(Contd. of page 4)

<b>TLV</b>	Short-term value: 984 mg/m <sup>3</sup> , 400 ppm Long-term value: 492 mg/m <sup>3</sup> , 200 ppm BEI
------------	--

- **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.  
Immediately remove all soiled and contaminated clothing.  
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

- **Information on basic physical and chemical properties**
- **General Information**
- **Appearance:**

<b>Form:</b>	Liquid
<b>Color:</b>	Clear Colorless
<b>Odor:</b>	Alcohol-like
- **pH-value:** 7.2
- **Change in condition**

<b>Melting point/Melting range:</b>	Not determined
<b>Boiling point/Boiling range:</b>	86 °C (187 °F)
- **Flash point:** 35 °C (95 °F)
- **Ignition temperature:** 425.0 °C (797 °F)
- **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:**

<b>Lower:</b>	3.5 Vol %
---------------	-----------

(Contd. on page 6)



## Safety Data Sheet acc. to OSHA HCS

Date Prepared: 03/14/2014

Reviewed On: 03/14/2014

**Product Name: BD CytoRich™ Clear Preservative Fluid**

(Contd. of page 5)

<b>Upper:</b>	15.0 Vol %
· <b>Vapor pressure at 20 °C (68 °F):</b>	59.0 hPa (44 mm Hg)
· <b>Density:</b>	Not determined
· <b>Solubility in / Miscibility with Water:</b>	Soluble
· <b>Solvent content:</b>	
<b>Organic solvents:</b>	24.2 %
<b>Water:</b>	74.7 %
· <b>Solids content:</b>	0.9 %
· <b>Other information</b>	No further relevant information available.

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

**64-17-5 ethanol**

Oral	LD50	3450 mg/kg (MOU)
		7060 mg/kg (rat)

- **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: thyroid, kidney, ureter or bladder tumors.  
Target organ: liver
- **Additional toxicological information:**  
The product shows the following dangers according to internally approved calculation methods for preparations:

(Contd. on page 7)

US



# Safety Data Sheet acc. to OSHA HCS

Date Prepared: 03/14/2014

Reviewed On: 03/14/2014

**Product Name: BD CytoRich™ Clear Preservative Fluid**

(Contd. of page 6)

· **Carcinogenic categories**

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

67-63-0	isopropanol	3
50-00-0	formaldehyde	1

· **NTP (National Toxicology Program)**

None of the ingredients is listed.

## 12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** This material is not expected to be toxic to aquatic life.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **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.

## 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation**  
Must not be disposed of with solid waste.  
Dispose of material in accordance with federal (40 CFR 261.3), 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.

US  
(Contd. on page 8)



### Safety Data Sheet acc. to OSHA HCS

Date Prepared: 03/14/2014

Reviewed On: 03/14/2014

**Product Name: BD CytoRich™ Clear Preservative Fluid**

(Contd. of page 7)

#### 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>Transport/Additional information:</b>	49 CFR §173.150 Exceptions For Class 3 (Flammable) and Combustible Liquids being used .
· <b>DOT</b>	
· <b>Remarks:</b>	49CFR 173.150(e)(2) - States that aqueous solution of alcohol containing 24 percent or less alcohol by volume and no other hazardous material can be re-class as a combustible liquid and is not subject to the requirements.
· <b>IMDG</b>	
· <b>Remarks:</b>	IMDG Special Provision 144 - An aqueous solution containing not more than 24% alcohol by volume is not subject to the provisions of this code.
· <b>IATA</b>	
· <b>Remarks:</b>	IATA Special Provision A58 - Aqueous solutions containing 24% or less alcohol by volume is not subject to these regulations.
· <b>UN "Model Regulation":</b>	-

US

(Contd. on page 9)





## Safety Data Sheet

acc. to OSHA HCS

Date Prepared: 03/14/2014

Reviewed On: 03/14/2014

**Product Name: BD CytoRich™ Clear Preservative Fluid**

(Contd. of page 8)

### 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
---------	---------

67-56-1	methanol
---------	----------

67-63-0	isopropanol
---------	-------------

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

7732-18-5	water
-----------	-------

64-17-5	ethanol
---------	---------

67-56-1	methanol
---------	----------

67-63-0	isopropanol
---------	-------------

7647-14-5	sodium chloride
-----------	-----------------

7758-11-4	potassium phosphate, dibasic
-----------	------------------------------

50-00-0	formaldehyde
---------	--------------

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

The concentration of formaldehyde is less than the OSHA regulated limit

50-00-0	formaldehyde
---------	--------------

- **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:**

64-17-5	ethanol
---------	---------

- **Carcinogenic categories**

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

64-17-5	ethanol	A4
---------	---------	----

67-63-0	isopropanol	A4
---------	-------------	----

- **GHS label elements**

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

(Contd. on page 10)

**Safety Data Sheet**  
acc. to OSHA HCS

Date Prepared: 03/14/2014

Reviewed On: 03/14/2014

**Product Name: BD CytoRich™ Clear Preservative Fluid**

(Contd. of page 9)

**· Hazard pictograms**

GHS02

**· Signal word Warning****· Hazard statements***H226 Flammable liquid and vapour.***· Precautionary statements**

- P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.*  
*P241 Use explosion-proof electrical/ventilating/lighting/equipment.*  
*P280 Wear protective gloves/protective clothing/eye protection/face protection.*  
*P240 Ground/bond container and receiving equipment.*  
*P233 Keep container tightly closed.*  
*P242 Use only non-sparking tools.*  
*P243 Take precautionary measures against static discharge.*  
*P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.*  
*P370+P378 In case of fire: Use for extinction: CO2, powder or water spray.*  
*P403+P235 Store in a well-ventilated place. Keep cool.*  
*P501 Dispose of contents/container in accordance with local/regional/national/international regulations.*

**· 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 can not guarantee that these are the only hazards that exist.*

**· Department issuing MSDS:***Environmental, Health & Safety**Created by Michael J. Spinazzola***· Contact: Technical Service Representative****· Date of preparation / last revision 03/14/2014 / -****· Abbreviations and acronyms:***RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)**ICAO: International Civil Aviation Organization**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*

(Contd. on page 11)

US



**Safety Data Sheet**  
acc. to OSHA HCS

Date Prepared: 03/14/2014

Reviewed On: 03/14/2014

**Product Name: BD CytoRich™ Clear Preservative Fluid**

(Contd. of page 10)

*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)*  
*HMIS: Hazardous Materials Identification System (USA)*  
*LC50: Lethal concentration, 50 percent*  
*LD50: Lethal dose, 50 percent*  
*Flam. Liq. 3: Flammable liquids, Hazard Category 3*

US