

02/17/2015

**Kit Components**

Product code	Description
<b>560762</b>	<b>Human Th17/Treg Phenotyping Kit</b>

Components:

51-9005450	Human FoxP3 Buffer B (50 X)
51-9005451	Human FoxP3 Buffer A (10 X)
51-9006636	Human Th17/Treg Phenotyping Cocktail
51-2092KZ	Protein Transport Inhibitor (Containing Monensin)

## 1 Identification

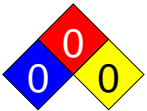
- **Product identifier**
  - **Product name:** Human FoxP3 Buffer B (50 X)
  - **Catalog number:** 51-9005450
- **Relevant identified uses of the substance or mixture and uses advised against**
  - **Sector of Use** SU24 Scientific research and development
- **Details of the supplier of the safety data sheet**
  - **Manufacturer/Supplier:**  
BD Biosciences, Pharmingen  
10975 Torreyana Road  
San Diego, CA 92121-1106  
Tel. (877)232-8995
  - **Information department:** Technical Services
  - **Emergency telephone number:**  
In case of a chemical emergency, spill, fire, or exposure, call BD Biosciences at (877)232-8995, or ChemTrec at (800)424-9300.

## 2 Hazard(s) identification

- **Classification of the substance or mixture**

The product is not classified according to the Globally Harmonized System (GHS).
- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**

This product contains no hazardous constituents, or the concentration of all chemical constituents are below the regulatory threshold limits described by Occupational Safety Health Administration Hazard Communication Standard 29 CFR 1910.1200 and the European Directive 91/155/EEC, and 93/112/EC.
- **Classification system:**

The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.
- **Label elements**
  - **GHS label elements** Void
  - **Hazard pictograms** Void
  - **Signal word** Void
  - **Hazard statements** Void
- **Classification system**
  - **NFPA ratings (scale 0-4)**  


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

## 3 Composition/information on ingredients


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

**Product name: Human FoxP3 Buffer B (50 X)**

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**· Dangerous components:**

8047-15-2 Saponins

 Xi R37

9.52%

 STOT SE 3, H335

#### 4 First-aid measures

**· Description of first aid measures**

- **General information** No special measures required.
- **After inhalation** Seek medical treatment in case of complaints.
- **After skin contact** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact**  
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing** If symptoms persist consult doctor.
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

#### 5 Fire-fighting measures

**· Extinguishing media**

- **Suitable extinguishing agents**  
CO<sub>2</sub>, ABC multipurpose dry chemical or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture** Nitrogen oxides (NO<sub>x</sub>)
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

#### 6 Accidental release measures

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

- The usual precautionary measures for handling chemicals should be followed.  
See Section 8 for information on personal protection equipment.
- **Environmental precautions:** No special measures required.
- **Methods and material for containment and cleaning up:** Wipe up with damp sponge or mop.
- **Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

#### 7 Handling and storage

- **Precautions for safe handling** No special measures required.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage**
  - **Requirements to be met by storerooms and receptacles:** 4 °C
  - **Information about storage in one common storage facility:**  
Do not store together with oxidizing and acidic materials as well as heavy-metal compounds.

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- **Further information about storage conditions:** Store in cool, dry conditions in well sealed containers.
- **Specific end use(s)** No further relevant information available.

## 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**
  - **Components with limit values that require monitoring at the workplace:**  
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
  - **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
  - **Personal Protective Equipment**
    - **General protective and hygienic measures**  
The usual precautionary measures for handling chemicals should be followed.
    - **Breathing equipment:** Not required.
    - **Protection of hands:**



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

- **Eye protection:**



Safety glasses

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

## 9 Physical and chemical properties

- **Information on basic physical and chemical properties**
  - **General Information**
    - **Appearance:**
      - **Form:** Liquid
      - **Color:** Dark brown
      - **Odor:** Odorless
      - **Odour threshold:** Not determined
  - **pH-value at 20 °C (68 °F):** 5
  - **Change in condition** Undetermined
    - **Melting point/Melting range:** Not determined
    - **Boiling point/Boiling range:** Not determined
  - **Flash point:** Not applicable
  - **Flammability (solid, gaseous)** Not applicable
  - **Ignition temperature:**
  - **Decomposition temperature:** Not determined

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· <b>Auto igniting:</b>	<i>Product is not self igniting.</i>
· <b>Danger of explosion:</b>	<i>Product does not present an explosion hazard.</i>
· <b>Explosion limits:</b>	
· <b>Lower:</b>	<i>Not determined</i>
· <b>Upper:</b>	<i>Not determined</i>
· <b>Vapor pressure:</b>	<i>Not applicable</i>
· <b>Density:</b>	<i>Not determined</i>
· <b>Relative density</b>	<i>Not determined</i>
· <b>Vapour density</b>	<i>Not determined</i>
· <b>Evaporation rate</b>	<i>Not determined</i>
· <b>Solubility in / Miscibility with</b>	
· <b>Water:</b>	<i>Soluble</i>
· <b>Partition coefficient (n-octanol/water):</b>	<i>Not determined</i>
· <b>Viscosity:</b>	
· <b>dynamic:</b>	<i>Not determined</i>
· <b>kinematic:</b>	<i>Not determined</i>
· <b>Other information</b>	<i>No further relevant information available.</i>

## 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.*
  - Incompatible materials: acidic material and metals*
- **Hazardous decomposition products:** *Nitrogen oxides (NO<sub>x</sub>)*
- **Additional information:**
  - Sodium azide is present in this product. Contact with acidic solutions and metal compounds over time may form potentially explosive metal azides. Should any of this material be introduced into a sanitary sewer system, flush with copious amounts of water.*

## 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
  - **Primary irritant effect:**
    - *on the skin: No irritating effect.*
    - *on the eye: No irritating effect.*
  - **Sensitization:** *No sensitizing effects known.*
- **Additional toxicological information:**
  - The product is not subject to OSHA classification according to internally approved calculation methods for preparations.*

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**Product name: Human FoxP3 Buffer B (50 X)**

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When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

· **Carcinogenic categories**

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

None of the ingredients is listed.

· **NTP (National Toxicology Program)**

None of the ingredients is listed.

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

None of the ingredients is listed.

## 12 Ecological information

· **Toxicity**

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

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

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

· **Mobility in soil:** No further relevant information available.

· **Ecotoxicological effects:**

· **Other information:**

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

· **Additional ecological information:**

· **General notes:** Water hazard class 2 (Self-assessment): hazardous for water.

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

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

## 13 Disposal considerations

· **Waste treatment methods**

· **Recommendation**

Smaller quantities can be disposed of with solid waste.

This product is not considered a RCRA hazardous waste.

Dispose of material in accordance with federal (40 CFR 261), state and local requirements.

· **Uncleaned packagings:**

· **Recommendation:** Disposal must be made according to state and federal regulations.

· **Recommended cleansing agent:** Water, if necessary with cleansing agents.

## 14 Transport information

· **UN-Number**

· **DOT, ADR, ADN, IMDG, IATA**                      Void

· **UN proper shipping name**

· **DOT, ADR, ADN, IMDG, IATA**                      Void

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- |  |                 |
|--|-----------------|
| · <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

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

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

None of the ingredients is listed.

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

None of the ingredients is listed.

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

26628-22-8 Sodium azide

7732-18-5 water

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

None of the ingredients is listed.

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

None of the ingredients is listed.

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

None of the ingredients is listed.

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

None of the ingredients is listed.

- **Carcinogenic categories**

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

26628-22-8 Sodium azide

A4

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

- **National regulations**

- **Water hazard class:** Water hazard class 2 (Self-assessment): hazardous for water.

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**Product name: Human FoxP3 Buffer B (50 X)**

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· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.**16 Other information**

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

· **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)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

NFPA: National Fire Protection Association (USA)

STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3

USA



**1 Identification**· **Product identifier**· **Product name:** Human FoxP3 Buffer A (10 X)· **Catalog number:** 51-9005451· **Relevant identified uses of the substance or mixture and uses advised against**· **Sector of Use** SU24 Scientific research and development· **Details of the supplier of the safety data sheet**· **Manufacturer/Supplier:**

BD Biosciences, Pharmingen

10975 Torreyana Road

San Diego, CA 92121-1106

Tel. (877)232-8995

· **Information department:** Technical Services· **Emergency telephone number:**

In case of a chemical emergency, spill, fire, or exposure, call BD Biosciences at (877)232-8995, or ChemTrec at (800)424-9300.

In case of a chemical emergency, spill, fire, or exposure, call BD Biosciences at (877)232-8995, or ChemTrec at (800)424-9300.

**2 Hazard(s) identification**· **Classification of the substance or mixture**

Skull and crossbones

Acute Tox. 3 H311

Toxic in contact with skin.

Acute Tox. 3 H331

Toxic if inhaled.



Health hazard

Muta. 2 H341

Suspected of causing genetic defects.

Carc. 1A H350

May cause cancer. Route of exposure: Inhalative.

STOT SE 2 H371-H335

May cause damage to organs. May cause respiratory irritation.

STOT RE 2 H373

May cause damage to the kidneys through prolonged or repeated exposure. Route of exposure: Oral.



Corrosion

Eye Dam. 1 H318

Causes serious eye damage.



Acute Tox. 4 H302

Harmful if swallowed.

Skin Irrit. 2 H315

Causes skin irritation.

Skin Sens. 1 H317

May cause an allergic skin reaction.

H227


Combustible liquid.

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USA

**Product name: Human FoxP3 Buffer A (10 X)**

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

R20/21/22-40-68/20/21/22: Harmful by inhalation, in contact with skin and if swallowed. Limited evidence of a carcinogenic effect. Harmful: possible risk of irreversible effects through inhalation, in contact with skin and if swallowed.

 **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**

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

· **Hazard pictograms** GHS05, GHS06, GHS08

· **Signal word** Danger

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

diethylene glycol

formaldehyde

methanol

**· Hazard statements**

Combustible liquid.

Harmful if swallowed.

Toxic in contact with skin or if inhaled.

Causes skin irritation.

Causes serious eye damage.

May cause an allergic skin reaction.

Suspected of causing genetic defects.

May cause cancer. Route of exposure: Inhalative.

May cause damage to organs. May cause respiratory irritation.

May cause damage to the kidneys through prolonged or repeated exposure. Route of exposure: Oral.

**· Precautionary statements**

Wear protective clothing / face protection.

Wear protective gloves.

Avoid breathing mist/vapours/spray.

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

Continue rinsing.

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

If skin irritation occurs: Get medical advice/attention.

**· Classification system**

· **NFPA ratings (scale 0-4)**



Health = 3

Flammability = 2

Reactivity = 0

**· Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

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**Product name: Human FoxP3 Buffer A (10 X)**

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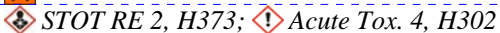

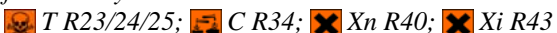


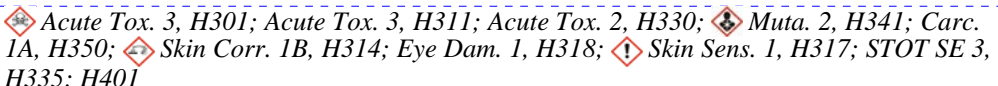




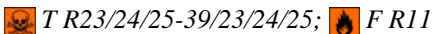

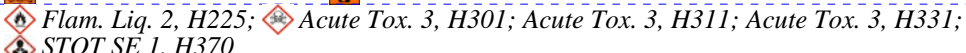





 · **vPvB:** Not applicable.

### 3 Composition/information on ingredients

 · **Chemical characterization: Mixtures**

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

 · **Dangerous components:**

111-46-6	diethylene glycol  Xn R22  STOT RE 2, H373;  Acute Tox. 4, H302	31.05%
50-00-0	formaldehyde  T R23/24/25;  C R34;  Xn R40;  Xi R43 Carc. Cat. 3  Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 2, H330;  Muta. 2, H341; Carc. 1A, H350;  Skin Corr. 1B, H314;  Eye Dam. 1, H318;  Skin Sens. 1, H317; STOT SE 3, H335; H401	10.08%
67-56-1	methanol  T R23/24/25-39/23/24/25;  F R11   Flam. Liq. 2, H225;  Acute Tox. 3, H301;  Acute Tox. 3, H311;  Acute Tox. 3, H331;  STOT SE 1, H370	3.54%

### 4 First-aid measures

 · **Description of first aid measures**

 · **General information**

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

 · **After 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.

Seek immediate medical advice.

If skin irritation continues, consult a doctor.

 · **After eye contact** Flush immediately with water for 15 minutes, and consult a doctor.

 · **After swallowing** Drink copious amounts of water and provide fresh air. Immediately call a doctor.

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

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

No further relevant information available.

### 5 Fire-fighting measures

 · **Extinguishing media**

 · **Suitable extinguishing agents** Use fire fighting measures that suit the environment.

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

 · **Advice for firefighters**

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

**Product name: Human FoxP3 Buffer A (10 X)**

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### 6 Accidental release measures

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

### 7 Handling and storage

- **Precautions for safe handling**  
 Ensure good ventilation/exhaustion at the workplace.  
 Prevent formation of aerosols.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
  - **Storage**
    - **Requirements to be met by storerooms and receptacles:** 4 °C
    - **Information about storage in one common storage facility:** Store away from oxidizing agents.
    - **Further information about storage conditions:** Store in cool, dry conditions in well sealed containers.
- **Specific end use(s)** No further relevant information available.

### 8 Exposure controls/personal protection

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

 · **Components with limit values that require monitoring at the workplace:**
**111-46-6 diethylene glycol**

WEEL	Long-term value: 10 mg/m <sup>3</sup>
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**67-56-1 methanol**

PEL	Long-term value: 260 mg/m <sup>3</sup> , 200 ppm
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REL	Short-term value: 325 mg/m <sup>3</sup> , 250 ppm
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	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

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**Product name: Human FoxP3 Buffer A (10 X)**

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**· Ingredients with biological limit values:**
**67-56-1 methanol**

BEI	15 mg/L
	Medium: urine
	Time: end of shift
	Parameter: Methanol (background, nonspecific)

 · **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.
- Avoid contact with the eyes and skin.

 · **Breathing equipment:** Use suitable respiratory protective device in case of insufficient ventilation.

**· Protection of hands:**


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

**· Eye protection:**


Safety glasses

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

## 9 Physical and chemical properties

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

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

 · **pH-value:** Not determined

**· Change in condition**

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

 · **Flash point:** 64 °C (147 °F)

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

 · **Ignition temperature:** Not determined

 · **Decomposition temperature:** Not determined

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

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**Product name: Human FoxP3 Buffer A (10 X)**

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· <b>Danger of explosion:</b>	Not determined.
· <b>Explosion limits:</b>	
· <b>Lower:</b>	Not determined
· <b>Upper:</b>	Not determined
· <b>Vapor pressure:</b>	Not applicable
· <b>Density:</b>	Not determined
· <b>Relative density</b>	Not determined
· <b>Vapour density</b>	Not determined
· <b>Evaporation rate</b>	Not determined
· <b>Solubility in / Miscibility with</b>	
· <b>Water:</b>	Soluble
· <b>Partition coefficient (n-octanol/water):</b>	Not determined
· <b>Viscosity:</b>	
· <b>dynamic:</b>	Not determined
· <b>kinematic:</b>	Not determined
· <b>Solvent content:</b>	
· <b>Organic solvents:</b>	44.7 %
· <b>Water:</b>	53.0 %
· <b>Other information</b>	No further relevant information available.

## 10 Stability and reactivity

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

## 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

· <b>LD/LC50 values that are relevant for classification:</b>		
<b>111-46-6 diethylene glycol</b>		
Oral	LD50	12565 mg/kg (rat)
Dermal	LD50	11890 mg/kg (rbt)
<b>50-00-0 formaldehyde</b>		
Oral	LD50	460 mg/kg (rat)
Dermal	LD50	270 mg/kg (Rabbit)

- **Primary irritant effect:**
  - **on the skin:** Irritant to skin and mucous membranes.
  - **on the eye:** Strong irritant with the danger of severe eye injury.

(Contd. on page 7)

**Product name: Human FoxP3 Buffer A (10 X)**

(Contd. of page 6)

- **Sensitization:** Sensitization possible through skin contact.
- **Additional toxicological information:**
- **Carcinogenic categories**

· <b>IARC (International Agency for Research on Cancer)</b>	
50-00-0 formaldehyde	I
· <b>NTP (National Toxicology Program)</b>	
50-00-0 formaldehyde	R
· <b>OSHA-Ca (Occupational Safety &amp; Health Administration)</b>	
50-00-0 formaldehyde	

## 12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability:** No further relevant information available.
- **Bioaccumulative potential:** No further relevant information available.
- **Mobility in soil:** No further relevant information available.
- **Ecotoxicological effects:**
- **Other information:**  
The ecological effects have not been thoroughly investigated, but currently none have been identified.
- **Additional ecological information:**
- **General notes:** Water hazard class 2 (Self-assessment): hazardous for water.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects:** No further relevant information available.

## 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation**  
Must not be disposed of with solid waste.  
Dispose of material in accordance with federal (40 CFR 261), state and local requirements.  
This product is not considered a RCRA hazardous waste.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to state and federal regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

## 14 Transport information

· <b>UN-Number</b>	Void
· <b>UN proper shipping name</b>	Void
· <b>Transport hazard class(es)</b>	
· <b>DOT</b>	Void

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**Product name: Human FoxP3 Buffer A (10 X)**

(Contd. of page 7)

· <b>Packing group</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.

### 15 Regulatory information

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

· <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
67-56-1	methanol

· <b>TSCA (Toxic Substances Control Act)</b>	
111-46-6	diethylene glycol
50-00-0	formaldehyde
67-56-1	methanol
9041-08-1	Heparin Sodium
7732-18-5	water

· <b>California Proposition 65 - Chemicals known to cause cancer</b>	
50-00-0	formaldehyde

· <b>Chemicals known to cause reproductive toxicity for females:</b>	
None of the ingredients is listed.	

· <b>Chemicals known to cause reproductive toxicity for males:</b>	
None of the ingredients is listed.	

· <b>Chemicals known to cause developmental toxicity:</b>	
67-56-1	methanol

· <b>Carcinogenic categories</b>	
· <b>TLV (Threshold Limit Value established by ACGIH)</b>	
50-00-0	formaldehyde
	A2

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

· **Hazard pictograms** GHS05, GHS06, GHS08

· **Signal word** Danger

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

diethylene glycol

formaldehyde

methanol

· **Hazard statements**

Combustible liquid.

Harmful if swallowed.

Toxic in contact with skin or if inhaled.

(Contd. on page 9)



**Product name: Human FoxP3 Buffer A (10 X)**

(Contd. of page 8)

*Causes skin irritation.*  
*Causes serious eye damage.*  
*May cause an allergic skin reaction.*  
*Suspected of causing genetic defects.*  
*May cause cancer. Route of exposure: Inhalative.*  
*May cause damage to the organs. May cause respiratory irritation.*  
*May cause damage to the kidneys through prolonged or repeated exposure. Route of exposure: Oral.*

**· Precautionary statements**

*Wear protective clothing / face protection.*  
*Wear protective gloves.*  
*Avoid breathing mist/vapours/spray.*  
*IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.*  
*IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.*  
*If skin irritation occurs: Get medical advice/attention.*

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

Class	Share in %
Wasser	53.0
I	13.6
NK	31.1

- Water hazard class:** Water hazard class 2 (Self-assessment): hazardous for water.
- Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

**16 Other information**

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

**· Department issuing MSDS:**

*Safety and Environment Department  
Regulatory Affairs*

**· Contact:** Technical Service Representative**· Abbreviations and acronyms:**

*DOT: US Department of Transportation*  
*ACGIH: American Conference of Governmental Industrial Hygienists*  
*EINECS: European Inventory of Existing Commercial Chemical Substances*  
*ELINCS: European List of Notified Chemical Substances*  
*CAS: Chemical Abstracts Service (division of the American Chemical Society)*  
*NFPA: National Fire Protection Association (USA)*  
*LC50: Lethal concentration, 50 percent*  
*LD50: Lethal dose, 50 percent*  
*Flam. Liq. 2: Flammable liquids, Hazard Category 2*  
*: Flammable liquids, Hazard Category 4*  
*Acute Tox. 3: Acute toxicity, Hazard Category 3*  
*Acute Tox. 4: Acute toxicity, Hazard Category 4*  
*Acute Tox. 2: Acute toxicity, Hazard Category 2*  
*Skin Corr. 1B: Skin corrosion/irritation, Hazard Category 1B*  
*Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2*  
*Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1*  
*Skin Sens. 1: Sensitisation - Skin, Hazard Category 1*  
*Muta. 2: Germ cell mutagenicity, Hazard Category 2*

(Contd. on page 10)



**Safety Data Sheet**  
acc. to ISO/11014:2009

Printing date 02/17/2015

Reviewed on 02/17/2015

**Product name: Human FoxP3 Buffer A (10 X)**

*Carc. 1A: Carcinogenicity, Hazard Category 1A*  
*STOT SE 1: Specific target organ toxicity - Single exposure, Hazard Category 1*  
*STOT SE 2: Specific target organ toxicity - Single exposure, Hazard Category 2*  
*STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3*  
*STOT RE 2: Specific target organ toxicity - Repeated exposure, Hazard Category 2*  
*: Hazardous to the aquatic environment - AcuteHazard, Category 2*

(Contd. of page 9)

USA

Printing date 02/17/2015

Reviewed on 02/09/2015

## 1 Identification

**· Product identifier****· Product name:** Human Th17/Treg Phenotyping Cocktail**· Catalog number:** 51-9006636**· Relevant identified uses of the substance or mixture and uses advised against****· Sector of Use** SU24 Scientific research and development**· Details of the supplier of the safety data sheet****· Manufacturer/Supplier:**

BD Biosciences, Pharmingen

10975 Torreyana Road

San Diego, CA 92121-1106

Tel. (877)232-8995

**· Information department:** Technical Services**· Emergency telephone number:**

In case of a chemical emergency, spill, fire, or exposure, call BD Biosciences at (877)232-8995, or ChemTrec at (800)424-9300.

## 2 Hazard(s) identification

**· Classification of the substance or mixture**

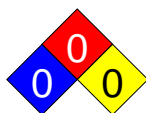
The product is not classified according to the Globally Harmonized System (GHS).

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

This product contains no hazardous constituents, or the concentration of all chemical constituents are below the regulatory threshold limits described by Occupational Safety Health Administration Hazard Communication Standard 29 CFR 1910.1200 and the European Directive 91/155/EEC, and 93/112/EC.

**· Classification system:**

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

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

Health = 0

Flammability = 0

Reactivity = 0

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

## 3 Composition/information on ingredients

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

(Contd. on page 2)

USA

**Product name: Human Th17/Treg Phenotyping Cocktail**

(Contd. of page 1)

**· Dangerous components:**

7647-14-5 sodium chloride

Acute Tox. 5, H303

1.19%

**4 First-aid measures****· Description of first aid measures**

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

**5 Fire-fighting measures**

- **Extinguishing media**
- **Suitable extinguishing agents**  
CO<sub>2</sub>, ABC multipurpose dry chemical or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture** Nitrogen oxides (NO<sub>x</sub>)
- **Advice for firefighters**
  - **Protective equipment:** No special measures required.

**6 Accidental release measures**

- **Personal precautions, protective equipment and emergency procedures**  
The usual precautionary measures for handling chemicals should be followed.  
See Section 8 for information on personal protection equipment.
- **Environmental precautions:** No special measures required.
- **Methods and material for containment and cleaning up:** Wipe up with damp sponge or mop.
- **Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

**7 Handling and storage**

- **Precautions for safe handling** No special measures required.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
  - **Storage**
    - **Requirements to be met by storerooms and receptacles:** 4 °C
    - **Information about storage in one common storage facility:**  
Do not store together with oxidizing and acidic materials as well as heavy-metal compounds.
    - **Further information about storage conditions:** Store in cool, dry conditions in well sealed containers.

(Contd. on page 3)

**Product name: Human Th17/Treg Phenotyping Cocktail**

(Contd. of page 2)

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

## 8 Exposure controls/personal protection

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

 · **Control parameters**

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

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

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

 · **Exposure controls**

 · **Personal Protective Equipment**

 · **General protective and hygienic measures**

The usual precautionary measures for handling chemicals should be followed.

 · **Breathing equipment:** Not required.

 · **Protection of hands:**


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

 · **Eye protection:**


Safety glasses

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

## 9 Physical and chemical properties

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

 · **General Information**

 · **Appearance:**

· <b>Form:</b>	Liquid
· <b>Color:</b>	Clear
· <b>Odor:</b>	Odorless
· <b>Odour threshold:</b>	Not determined

 · **pH-value:** Not determined

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

 · **Flash point:** Not applicable

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

 · **Ignition temperature:**

 · **Decomposition temperature:** Not determined

(Contd. on page 4)

Printing date 02/17/2015

Reviewed on 02/09/2015

**Product name: Human Th17/Treg Phenotyping Cocktail**

(Contd. of page 3)

· <b>Auto igniting:</b>	<i>Product is not self igniting.</i>
· <b>Danger of explosion:</b>	<i>Product does not present an explosion hazard.</i>
· <b>Explosion limits:</b>	
· <b>Lower:</b>	<i>Not determined</i>
· <b>Upper:</b>	<i>Not determined</i>
· <b>Vapor pressure at 20 °C (68 °F):</b>	<i>23 hPa (17 mm Hg)</i>
· <b>Density:</b>	<i>Not determined</i>
· <b>Relative density</b>	<i>Not determined</i>
· <b>Vapour density</b>	<i>Not determined</i>
· <b>Evaporation rate</b>	<i>Not determined</i>
· <b>Solubility in / Miscibility with</b>	
· <b>Water:</b>	<i>Soluble</i>
· <b>Partition coefficient (n-octanol/water):</b>	<i>Not determined</i>
· <b>Viscosity:</b>	
· <b>dynamic:</b>	<i>Not determined</i>
· <b>kinematic:</b>	<i>Not determined</i>
· <b>Solvent content:</b>	
· <b>Organic solvents:</b>	<i>0.0 %</i>
· <b>Water:</b>	<i>98.4 %</i>
· <b>Other information</b>	<i>No further relevant information available.</i>

## 10 Stability and reactivity

- **Reactivity** *No dangerous reactions known*
- **Chemical stability**
  - **Thermal decomposition / conditions to be avoided:** *No decomposition if used according to specifications.*
- **Possibility of hazardous reactions** *No dangerous reactions known*
- **Conditions to avoid** *No further relevant information available.*
- **Incompatible materials:**
  - Incompatible material: strong oxidizers.*
  - Incompatible materials: acidic material and metals*
- **Hazardous decomposition products:** *Nitrogen oxides (NOx)*
- **Additional information:**
  - Sodium azide is present in this product. Contact with acidic solutions and metal compounds over time may form potentially explosive metal azides. Should any of this material be introduced into a sanitary sewer system, flush with copious amounts of water.*

## 11 Toxicological information

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

(Contd. on page 5)

**Product name: Human Th17/Treg Phenotyping Cocktail**

(Contd. of page 4)

**· Additional toxicological information:**

The product is not subject to OSHA classification according to internally approved calculation methods for preparations.

When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

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

None of the ingredients is listed.

**· NTP (National Toxicology Program)**

None of the ingredients is listed.

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

None of the ingredients is listed.

**12 Ecological information****· Toxicity**

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

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

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

· **Mobility in soil** No further relevant information available.

**· Ecotoxicological effects:****· Other information:**

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

**· Additional ecological information:**

· **General notes:** Generally not hazardous for water.

**· Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

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

**13 Disposal considerations****· Waste treatment methods****· Recommendation**

Smaller quantities can be disposed of with solid waste.

This product is not considered a RCRA hazardous waste.

Dispose of material in accordance with federal (40 CFR 261), state and local requirements.

**· Uncleaned packagings:**

· **Recommendation:** Disposal must be made according to state and federal regulations.

· **Recommended cleansing agent:** Water, if necessary with cleansing agents.

**14 Transport information****· UN-Number**

· **DOT, ADR, ADN, IMDG, IATA** Void

(Contd. on page 6)

**Product name: Human Th17/Treg Phenotyping Cocktail**

(Contd. of page 5)

- |  |                 |
|--|-----------------|
| · <b>UN proper shipping name</b><br>· DOT, ADR, ADN, IMDG, IATA                  | Void            |
| · <b>Transport hazard class(es)</b><br>· DOT, ADR, ADN, IMDG, IATA<br>· Class    | Void            |
| · <b>Packing group</b><br>· DOT, ADR, IMDG, IATA                                 | Void            |
| · <b>Environmental hazards:</b><br>· Marine pollutant:                           | 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

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

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

None of the ingredients is listed.

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

None of the ingredients is listed.

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

7647-14-5	sodium chloride
9048-46-8	BSA
26628-22-8	Sodium azide
7558-79-4	disodium hydrogenorthophosphate
7447-40-7	potassium chloride
7778-77-0	potassium phosphate, monobasic
7732-18-5	water

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

None of the ingredients is listed.

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

None of the ingredients is listed.

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

None of the ingredients is listed.

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

None of the ingredients is listed.

· **Carcinogenic categories**

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

26628-22-8	Sodium azide	A4
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· **GHS label elements** Void

(Contd. on page 7)



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Reviewed on 02/09/2015

**Product name: Human Th17/Treg Phenotyping Cocktail**

(Contd. of page 6)

- **Hazard pictograms** Void
- **Signal word** Void
- **Hazard statements** Void
- **National regulations**
- **Water hazard class:** Generally not hazardous for water.
- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

## 16 Other information

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

- **Contact:** Technical Service Representative
- **Abbreviations and acronyms:**
  - ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
  - IMDG: International Maritime Code for Dangerous Goods
  - DOT: US Department of Transportation
  - IATA: International Air Transport Association
  - ACGIH: American Conference of Governmental Industrial Hygienists
  - EINECS: European Inventory of Existing Commercial Chemical Substances
  - ELINCS: European List of Notified Chemical Substances
  - CAS: Chemical Abstracts Service (division of the American Chemical Society)
  - NFPA: National Fire Protection Association (USA)
  - Acute Tox. 5: Acute toxicity, Hazard Category 5

USA

Printing date 02/17/2015

Reviewed on 02/16/2015

## 1 Identification

**· Product identifier****· Product name: Protein Transport Inhibitor (Containing Monensin)****· Catalog number: 51-2092KZ****· Relevant identified uses of the substance or mixture and uses advised against****· Sector of Use SU24** Scientific research and development**· Details of the supplier of the safety data sheet****· Manufacturer/Supplier:**

BD Biosciences, Pharmingen

10975 Torreyana Road

San Diego, CA 92121-1106

Tel. (877)232-8995

**· Information department: Technical Services****· Emergency telephone number:**

In case of a chemical emergency, spill, fire, or exposure, call BD Biosciences at (877)232-8995, or ChemTrec at (800)424-9300.

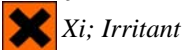
## 2 Hazard(s) identification

**· Classification of the substance or mixture**

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



Eye Irrit. 2A H319 Causes serious eye irritation.

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

R36: Irritating to eyes.



F; Highly flammable

R11: Highly flammable.

**· Classification system:**

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

**· Label elements****· GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).**· Hazard pictograms** GHS02, GHS07**· Signal word** Danger**· Hazard statements**

Highly flammable liquid and vapor.

Causes serious eye irritation.

**· Precautionary statements**

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

Wear protective gloves / eye protection.

Wear protective clothing.

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

(Contd. on page 2)

**Product name: Protein Transport Inhibitor (Containing Monensin)**

(Contd. of page 1)

*IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.*  
*Dispose of contents/container in accordance with local/regional/national/international regulations.*

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



Health = 1  
 Flammability = 3  
 Reactivity = 0

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

**3 Composition/information on ingredients**

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

**Dangerous components:**

64-17-5	ethanol Xi R36;  F R11 Flam. Liq. 2, H225;  Eye Irrit. 2A, H319	99.61%
22373-78-0	Monensin, Mononatriumsalz T R23/24/25 Acute Tox. 2, H300; Acute Tox. 2, H310; Acute Tox. 2, H330	0.26%

**4 First-aid measures**

- **Description of first aid measures**
- **General information**  
*Symptoms of poisoning may even occur after several hours; therefore provide medical observation for at least 48 hours after the accident.*
- **After inhalation** Supply fresh air.
- **After skin contact**  
*Immediately wash with water and soap and rinse thoroughly.*  
*If skin irritation continues, consult a doctor.*
- **After eye contact** Flush immediately with water for 15 minutes, and consult a doctor.
- **After swallowing** Seek immediate medical advice.
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**  
*No further relevant information available.*

**5 Fire-fighting measures**

- **Extinguishing media**
- **Suitable extinguishing agents** CO<sub>2</sub>, sand, extinguishing powder. Do not use water.
- **For safety reasons unsuitable extinguishing agents** Water with full jet.
- **Special hazards arising from the substance or mixture** No further relevant information available.

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Printing date 02/17/2015

Reviewed on 02/16/2015

**Product name: Protein Transport Inhibitor (Containing Monensin)**

(Contd. of page 2)

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

## 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
The usual precautionary measures for handling chemicals should be followed.  
See Section 8 for information on personal protection equipment.
- **Environmental precautions:** No special measures required.
- **Methods and material for containment and cleaning up:**  
Wipe up with damp sponge or mop.  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders).  
Dispose contaminated material as waste according to item 13.  
Ensure adequate ventilation.  
Do not flush with water or aqueous cleansing agents
- **Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

## 7 Handling and storage

- **Precautions for safe handling**  
Ensure good ventilation/exhaustion at the workplace.  
Prevent formation of aerosols.
- **Information about protection against explosions and fires:**  
Keep ignition sources away - Do not smoke.  
Protect against electrostatic charges.
- **Conditions for safe storage, including any incompatibilities**
  - **Storage**
    - **Requirements to be met by storerooms and receptacles:** 4 °C
    - **Information about storage in one common storage facility:** Store away from oxidizing agents.
    - **Further information about storage conditions:** Store in cool, dry conditions in well sealed containers.
- **Specific end use(s)** No further relevant information available.

## 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**
  - **Components with limit values that require monitoring at the workplace:**  
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
  - **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
  - **Personal Protective Equipment**
    - **General protective and hygienic measures**  
Keep away from foodstuffs, beverages and feed.  
Wash hands before breaks and at the end of work.
    - **Breathing equipment:** Not necessary if room is well-ventilated.

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 · **Protection of hands:**


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

 · **Eye protection:**


Safety glasses

Tightly sealed goggles.

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

## 9 Physical and chemical properties

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

 · **General Information**

 · **Appearance:**

- |                           |                |
|---------------------------|----------------|
| · <b>Form:</b>            | Liquid         |
| · <b>Color:</b>           | Colorless      |
| · <b>Odor:</b>            | Characteristic |
| · <b>Odour threshold:</b> | Not determined |

· <b>pH-value:</b>	Not determined
--------------------	----------------

 · **Change in condition**

- |                                       |                     |
|---------------------------------------|---------------------|
| · <b>Melting point/Melting range:</b> | -114.5 °C (-174 °F) |
| · <b>Boiling point/Boiling range:</b> | 78 °C (172 °F)      |

· <b>Flash point:</b>	13 °C (55 °F)
-----------------------	---------------

· <b>Flammability (solid, gaseous)</b>	Not applicable
--	----------------

· <b>Ignition temperature:</b>	425 °C (797 °F)
--------------------------------	-----------------

· <b>Decomposition temperature:</b>	Not determined
-------------------------------------	----------------

· <b>Auto igniting:</b>	Product is not self igniting.
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· <b>Danger of explosion:</b>	Product is not explosive. However, formation of explosive air/vapor mixtures are possible.
-------------------------------	--

 · **Explosion limits:**

- |                 |           |
|-----------------|-----------|
| · <b>Lower:</b> | 3.5 Vol % |
| · <b>Upper:</b> | 15 Vol %  |

· <b>Vapor pressure at 20 °C (68 °F):</b>	59 hPa (44 mm Hg)
---	-------------------

· <b>Density at 20 °C (68 °F):</b>	0.79 g/cm <sup>3</sup> (6.593 lbs/gal)
------------------------------------	--

- |                           |                |
|---------------------------|----------------|
| · <b>Relative density</b> | Not determined |
| · <b>Vapour density</b>   | Not determined |
| · <b>Evaporation rate</b> | Not determined |

 · **Solubility in / Miscibility with**

· <b>Water at 20 °C (68 °F):</b>	1 g/l
----------------------------------	-------

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**Product name: Protein Transport Inhibitor (Containing Monensin)**

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- **Partition coefficient (n-octanol/water):** Not determined
- **Viscosity:**
  - **dynamic:** Not determined
  - **kinematic:** Not determined
- **Solvent content:**
  - **Organic solvents:** 99.6 %
  - **Water:** 0.1 %
- **Other information** 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:**
  - **Primary irritant effect:**
    - **on the skin:** No irritating effect.
    - **on the eye:** Irritating effect.
  - **Sensitization:** No sensitizing effects known.
- **Subacute to chronic toxicity:** Target organs: thyroid, kidney, ureter or bladder tumors.
- **Additional toxicological information:**  
 The product shows the following dangers according to internally approved calculation methods for preparations:

- **Carcinogenic categories**

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

None of the ingredients is listed.

- **NTP (National Toxicology Program)**

None of the ingredients is listed.

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

None of the ingredients is listed.

### 12 Ecological information

- **Toxicity**
  - **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.

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- **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), 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.*

### 14 Transport information

- |   |                              |
|---|------------------------------|
| · <b>UN-Number</b>  |                              |
| · <b>DOT, ADR, IMDG, IATA</b>   | UN1170                       |
| · <b>UN proper shipping name</b>  |                              |
| · <b>DOT</b>  | Ethanol                      |
| · <b>ADR</b>  | 1170 Ethanol (Ethyl alcohol) |
| · <b>IMDG</b>   | ETHANOL (ETHYL ALCOHOL)      |
| · <b>IATA</b>   | ETHANOL                      |
| · <b>Transport hazard class(es)</b>   |                              |
| · <b>DOT</b>  |                              |
|  |                              |
| · <b>Class</b>  | 3 Flammable liquids          |
| · <b>Label</b>  | 3                            |
| · <b>ADR</b>  |                              |
|  |                              |
| · <b>Class</b>  | 3 (F1) Flammable liquids     |


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

### 15 Regulatory information

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

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

None of the ingredients is listed.

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

64-17-5 | ethanol

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

64-17-5	ethanol
1310-73-2	sodium hydroxide
7732-18-5	water

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

None of the ingredients is listed.

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

None of the ingredients is listed.

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

None of the ingredients is listed.

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

64-17-5	ethanol
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**· Carcinogenic categories**
**· TLV (Threshold Limit Value established by ACGIH)**

64-17-5	ethanol	A3
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**· GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).

**· Hazard pictograms** GHS02, GHS07

**· Signal word** Danger

**· Hazard statements**

Highly flammable liquid and vapor.

Causes serious eye irritation.

**· Precautionary statements**

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

Wear protective gloves / eye protection.

Wear protective clothing.

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

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

Continue rinsing.

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

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

Class	Share in %
Wasser	0.1
I	0.3
NK	99.6

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

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

**16 Other information**

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

**· Contact:** Technical Service Representative

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**Abbreviations and acronyms:**

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

*IMDG: International Maritime Code for Dangerous Goods*

*DOT: US Department of Transportation*

*IATA: International Air Transport Association*

*ACGIH: American Conference of Governmental Industrial Hygienists*

*EINECS: European Inventory of Existing Commercial Chemical Substances*

*ELINCS: European List of Notified Chemical Substances*

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

*NFPA: National Fire Protection Association (USA)*

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

*Acute Tox. 2: Acute toxicity, Hazard Category 2*

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

USA