SAFETY DATA SHEET

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Section 1 Identification of the Substance/mixture and of the Company/undertaking

1.1 Product Identifier

Product Name ISE Electrolyte Buffer

Part Number A28945

Series Name SYNCHRON Systems

1.2 Relevant identified uses of the substance or mixture and uses advised against

Product Use For In Vitro Diagnostic Use. See product literature for details.

1.3 Details of the supplier of the safety data sheet

Manufacturer

Beckman Coulter, Inc.
250 S. Kraemer Blvd
Brea, CA 92821, U.S.A.
Tel: 800-854-3633

EC REP Address

Beckman Coulter Eurocenter SA
22, rue Juste-Olivier, Case Postale 1044,
CH-1260 Nyon 1, Switzerland.
Telephone: +41 (0)22 365 36 11
Monday through Friday, 9:00 am to 7:00pm)

e-mail address SDSNT@beckman.com

1.4 Emergency telephone number

Telephone number (24H) Chemtrec Emergency Tel No. U.S.A. 800-424-9300, International (001) 703-527-3887

Distributor and Emergency Phone No.

Refer to attached list, Document ID: 472050, for local distributor and emergency phone numbers.

Section 2 Hazards Identification

2.1 Classification of substance or mixture

Product Description Mixture

Colorless to straw color; Clear; Liquid; Slight alcohol odor

Classification according to EC 1272/2008 (CLP/GHS)

Skin Irritation Category 2
Skin Sensitization Category 1
Eye Irritation Category 2

Classification according to US-OSHA (HCS 29 CFR 1910.1200) and UN GHS

Skin Irritation Category 2
Skin Sensitization Category 1
Eye Irritation Category 2

Section 2 Hazards Identification (Continued)

2.2 Label Elements

According to EC 1272/2008 (CLP/GHS), US-OSHA and UN GHS

Hazardous Ingredients

Dimethoxane

1,3-Dihydroxymethyl-5,5-dimethylhydantoin

Phosphoric Acid

Pictogram

Signal Word

WARNING

Hazard Statements

H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.

Precautionary Statements

P261 Avoid breathing vapours.
P272 Contaminated work clothing should not be allowed out of the workplace.
P280 Wear protective gloves, protective clothing and eye/face protection.
P302+P352 IF ON SKIN: Wash with plenty of soap and water.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P332+P313 If skin irritation occurs: Get medical advice/attention.
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
P337+P313 If eye irritation persists: Get medical advice/attention.
P362+P364 Take off contaminated clothing and wash it before use.
P501 Dispose of contents/container in accordance with local/national regulations

Product label will display most significant precautionary statements.

2.3 Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

See Section 11 Toxicological Information for more detailed health information.

Section 3 Composition and Information on Ingredients

3.2 Mixtures

Hazardous Ingredients:		Hazard Classification of Pure Ingredients		
Chemical Name	**% by wt.**	**EU 1272/2008 CLP/GHS**	**GHS**	**Note**
Tris(hydroxymethyl)– aminomethane CAS # 77-86-1 EINECS # 201-064-4 Index # Not available	< 5	Eye Irrit. 2, H319 STOT SE 3, H335 Skin Irrit. 2, H315	Eye Irrit. 2, H319 STOT SE 3, H335 Skin Irrit. 2, H315	3, 8

Section 3 Composition and Information on Ingredients (Continued)

Phosphoric Acid CAS # 7664-38-2 EINECS # 231-633-2 Index # 015-011-00-6	< 2	Acute Tox. Inhal. 2, H330 Acute Tox. Oral 4, H302 Eye Dam. 1, H318 Skin Corr. 1B, H314	Acute Tox. Inhal. 2, H330 Acute Tox. Oral 4, H302 Eye Dam. 1, H318 Skin Corr. 1B, H314	
Methanol CAS # 67-56-1 EINECS # 200-659-6 Index # 603-001-00-X	< 1	Acute Tox. Dermal 3, H311 Acute Tox. Inhal. 3, H331 Acute Tox. Oral 3, H301 Flam. Liq. 2, H225 STOT SE 1, H370	Acute Tox. Dermal 3, H311 Acute Tox. Inhal. 3, H331 Acute Tox. Oral 3, H301 Flam. Liq. 2, H225 STOT SE 1, H370	3, 8
Dimethoxane CAS # 828-00-2 EINECS # 212-579-9 Index # Not available	< 1	Acute Tox. Oral 4, H302 Eye Irrit. 2, H319 STOT SE 3, H335 Skin Irrit. 2, H315 Skin Sens. 1, H317	Acute Tox. Oral 4, H302 Eye Irrit. 2, H319 Flam. Liq. 4, H227 STOT SE 3, H335 Skin Irrit. 2, H315 Skin Sens. 1, H317	
1,3-Dihydroxymethyl-5,5-dimethylhydantoin CAS # 6440-58-0 EINECS # 229-222-8 Index # Not available	< 0.1	Acute Tox. Oral 4, H302 Eye Irrit. 2, H319 Resp. Sens. 1, H334	Acute Tox. Oral 4, H302 Eye Irrit. 2, H319 Resp. Sens. 1, H334	15, 8

15 - May produce an allergic reaction.
3 - Health hazard
8 - Present at concentration below the cut-off limits.

See section 8 for available Occupational exposure limits
See Section 15 for additional regulatory information
See Section 16 for description of hazard class and hazard statements

Section 4 First Aid Measures

4.1 Description of first aid measures

Inhalation — If product is inhaled, move exposed individual to fresh air. If individual is not breathing, begin artificial respiration by trained personnel and obtain medical attention immediately.

Eye Contact — If product enters eyes, rinse eyes gently with water for 15 minutes or longer, making sure that the eyelid is held open. If pain or irritation occurs, obtain medical advice/attention.

Skin Contact — In case of skin contact, rinse with plenty of water. Remove contaminated clothing and shoes. If pain or irritation occurs, obtain medical advice/attention.

Ingestion — If product is ingested, rinse mouth with water. If irritation or discomfort occurs, obtain medical attention immediately.

4.2 Most important symptoms and effects, both acute and delayed

May cause an allergic skin reaction.
Causes skin irritation.
Causes serious eye irritation.
See Section 11 Toxicological Information for more detailed health information.

Section 4 First Aid Measures (Continued)

4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available. Refer to Section 4.1.

Section 5 Fire Fighting Measures

5.1 Extinguishing Media

In case of fire use carbon dioxide (CO_2), dry chemical, water spray or foam.

For large fires use extinguishing media suitable for surrounding fire.

5.2 Special hazards arising from the substance or mixture

Special Fire and Explosion Hazards

No special hazards determined.

Hazardous Combustion Products

No combustion products posing significant hazards are expected from this product (an aqueous solution).

5.3 Advice for fire fighters

Protective Equipment

Self-contained breathing apparatus is recommended for firefighters in all chemical fire situations.

5.4 Additional information

No further relevant information available.

Section 6 Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal Precautions

Observe general safety guidelines for protection; avoid eye and skin contact.

Wear protective gloves, protective clothing and tightly sealed eye/face protection.

6.2 Environmental Precautions

Contain spill to prevent migration.

Do not allow the undiluted product to enter sewers/surface or ground water.

6.3 Methods and material for containment and cleaning up

Spill and Leak Procedures

Absorb spilled material with an appropriate inert, non-flammable absorbent and dispose according to local regulations.

6.4 Reference to other sections

Refer sections 8 and 13.

Section 7 Handling and Storage

7.1 Precautions for safe handling

Use good laboratory procedures; avoid eye and skin contact.

7.2 Conditions for safe storage, including any incompatibilities

Store at Room Temperature, as directed on the Product Label.

To maintain product quality, store according to the instructions in the product labeling.

Store away from strong acids, strong bases, strong oxidizers and incompatible materials (section 10).

7.3 Specific end uses

No further relevant information available.

Section 8 Exposure Controls and Personal Protection

8.1 Control parameters

Exposure Limits

US OSHA

Phosphoric Acid CAS # 7664-38-2	1 mg/m3 TWA
Methanol CAS # 67-56-1	200 ppm TWA; 260 mg/m3 TWA

ACGIH

Phosphoric Acid CAS # 7664-38-2	3 mg/m3 STEL; 1 mg/m3 TWA
Methanol CAS # 67-56-1	250 ppm STEL; 200 ppm TWA; Skin - potential significant contribution to overall exposure by the cutaneous route

DFG MAK

Phosphoric Acid CAS # 7664-38-2	4 mg/m3 Peak (inhalable fraction); 2 mg/m3 TWA MAK (inhalable fraction)
Methanol CAS # 67-56-1	skin notation; 200 ppm Peak; 260 mg/m3 Peak; 100 ppm TWA MAK; 130 mg/m3 TWA MAK

Ireland

Phosphoric Acid CAS # 7664-38-2	1 mg/m3 TWA; 2 mg/m3 STEL
Methanol CAS # 67-56-1	200 ppm TWA; 260 mg/m3 TWA; 600 ppm STEL (calculated); 780 mg/m3 STEL (calculated); Potential for cutaneous absorption

IOELVs

Phosphoric Acid CAS # 7664-38-2	2 mg/m3 STEL; 1 mg/m3 TWA
Methanol CAS # 67-56-1	Possibility of significant uptake through the skin; 200 ppm TWA; 260 mg/m3 TWA

NIOSH

Phosphoric Acid CAS # 7664-38-2	1000 mg/m3 IDLH; 3 mg/m3 STEL; 1 mg/m3 TWA
Methanol CAS # 67-56-1	6000 ppm IDLH; 250 ppm STEL; 325 mg/m3 STEL; 200 ppm TWA; 260 mg/m3 TWA

Japan

Phosphoric Acid CAS # 7664-38-2	1 mg/m3 OEL
Methanol CAS # 67-56-1	200 ppm OEL; 260 mg/m3 OEL

Sweden (AFS 2015:7 and amendments)

Phosphoric Acid CAS # 7664-38-2	1 mg/m3 TLV; 2 mg/m3 Binding STEL
Methanol CAS # 67-56-1	200 ppm TLV; 250 mg/m3 TLV; 250 ppm Indicative STEL; 350 mg/m3 Indicative STEL; Skin notation

Section 8 Exposure Controls and Personal Protection (Continued)

8.2 Exposure controls

Engineering Controls	No special engineering controls are required. Use with good general ventilation.
Eye Protection	Safety glasses or chemical goggles should be worn to prevent eye contact. Refer U.S. OSHA 29 CFR 1910.133, European Standard EN166 or appropriate government standards.
Skin Protection	Wear impervious gloves such as Nitrile or equivalent and protective clothing. Refer to U.S. OSHA 29 CFR 1910.138, European Standard EN 374, EN 14605:2005+A1:2009 or appropriate government standards.
Respiratory Protection	Under normal conditions, the use of this product should not require respiratory protection. If overexposure should occur and ventilation is not adequate to maintain airborne concentrations at acceptable levels, the use of respiratory protection should be evaluated by a qualified professional.

Section 9 Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

Physical State	Liquid	**Specific Gravity (Water=1.0)**	≈1 @20°C
Color	Colorless to straw color	**Solubility**	
Transparency	Clear	**Water**	Miscible
Odor	Slight alcohol odor	**Organic**	Not determined
pH	7.05 - 7.25 @24°C	**Partition coefficient: n-octanol/water**	Not determined
Freezing Point	Not determined	**Auto-ignition Temp.**	Not applicable
Boiling Point	Not determined	**Decomposition Temperature**	Not determined
Flash Point	Not applicable	**Percent Volatiles**	Not applicable
Evaporation Rate	Not determined	**Vapor Pressure**	Not determined
Flammability (Solid, Gas)	Not applicable	**Viscosity**	Not determined
Flammability Limits	Not applicable	**Explosive Properties**	Not applicable
Vapor Density	Not determined	**Oxidizing Properties**	Not applicable
Odor Threshold	Methanol 3.05 ppm odor threshold value (detectable)		

9.2 Other Information No further relevant information available.

Section 10 Stability and Reactivity

10.1 Reactivity No further relevant information available.

10.2 Chemical Stability The product is stable in accordance with recommended storage conditions.

Section 10 Stability and Reactivity (Continued)

10.3 Possibility of hazardous reactions

No further relevant information available.

10.4 Conditions to Avoid

To maintain product performance keep away from strong acids, strong bases, strong oxidizers.

Avoid exposure to heat and direct sunlight.

10.5 Incompatible materials

No further relevant information available.

10.6 Hazardous Decomposition Products

No decomposition products posing significant hazards would be expected from this product (an aqueous solution).

Section 11 Toxicological Information

11.1 Information on toxicological effects

Toxicity Data for Hazardous Ingredients

Phosphoric Acid CAS # 7664-38-2	Dermal LD50 Rabbit 2740 mg/kg; Inhalation LC50 Rat >850 mg/m3 1 h; Oral LD50 Rat 1530 mg/kg
Methanol CAS # 67-56-1	Dermal LD50 Rabbit 15840 mg/kg; Inhalation LC50 Rat 22500 ppm 8 h; Oral LD50 Rat 6200 mg/kg
1,3-Dihydroxymethyl-5,5-dimethylhydantoin CAS # 6440-58-0	Oral LD50 Rat 2 g/kg
Tris(hydroxymethyl)–aminomethane CAS # 77-86-1	Oral LD50 Rat 5900 mg/kg
Dimethoxane CAS # 828-00-2	Oral LD50 Rat 1930 mg/kg

Primary Routes of Exposure Eye contact, ingestion, inhalation, and skin contact.

Acute Toxicity Not classified based on available data.

Skin Corrosion/Irritation May cause skin irritation.

Serious eye damage/eye irritation Causes serious eye irritation.

Respiratory/skin sensitization May cause an allergic skin reaction.

Carcinogenicity This product does not contain a reportable concentration (≥ 0.1%) of any ingredient listed as carcinogen by ACGIH, IARC, NTP, OSHA or 1272/2008 EC regulation.

Germ cell mutagenicity Not classified based on available data.

Reproductive Toxicity Not classified based on available data.

Specific target organ toxicity – single exposure

Not classified based on available data.

Section 11 Toxicological Information (Continued)

Specific target organ toxicity – repeated exposure

Not classified based on available data.

Aspiration hazard Not classified based on available data.

Other Information No further relevant information available.

Section 12 Ecological Information

12.1 Ecotoxicity

Fresh Water Species

Methanol CAS # 67-56-1	96 h LC50 Pimephales promelas: 28200 mg/L [flow-through]; 96 h LC50 Pimephales promelas: >100 mg/L [static]; 96 h LC50 Oncorhynchus mykiss: 19500 - 20700 mg/L [flow-through]; 96 h LC50 Oncorhynchus mykiss: 18 - 20 mL/L [static]; 96 h LC50 Lepomis macrochirus: 13500 - 17600 mg/L [flow-through]
Microtox	No information available.
Water Flea	No information available.
Fresh Water Algae	No information available.

12.2 Persistence and degradability Not determined for the product.

12.3 Bioaccumulation Not determined for the product.

12.4 Mobility in soil Not determined for the product.

12.5 Results of PBT and vPvB assessment

Not determined for the product. PBT: Not applicable, vPvB: Not applicable.

12.6 Other Adverse Effects No further relevant information available.

Section 13 Disposal Considerations

13.1 Waste treatment methods

Product Waste Disposal Chemical residues and remains should be routinely handled as special waste. This must be disposed of in compliance with anti-pollution and other laws of the country concerned. To ensure compliance we recommend that you contact the relevant (local) authorities and/or an approved waste-disposal company for information.

Package disposal Dispose of waste product, unused product and contaminated packaging in compliance with federal, state and local regulations. If unsure of the applicable requirements, contact the authorities for information.

13.2 Additional information Suggested European waste catalogue 18 01 07 - chemicals other than those mentioned in 18 01 06. Dispose in accordance with national, state and local waste regulations.

Section 14 Transport Information

Transportation of this product is not regulated under ICAO, IATA DGR, IMDG, US DOT, European ADR and RID or Canadian TDG.

14.1 UN/ID Number: Not regulated for transportation

14.2 Shipping Name: Not regulated for transportation

14.3 Hazard Class: Not regulated for transportation

14.4 Packing Group: Not regulated for transportation

14.5 Environmental Hazards: Not regulated for transportation

14.6 Special Precautions for user: None

14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code: Not applicable

Section 15 Regulatory Information

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

US Federal and State Regulations

SARA 313 (Section 313, Title III reporting requirements)

CAS # 67-56-1	Methanol	1.0% de minimis concentration
CAS # 50-00-0	Formaldehyde	0.1% de minimis concentration

CERCLA (The Comprehensive Environmental Response, Compensation, and Liability Act) 40 CFR 302.4

CAS # 7664-38-2	Phosphoric Acid
CAS # 67-56-1	Methanol
CAS # 50-00-0	Formaldehyde
CAS # 7440-23-5	Sodium

California Proposition 65

⚠ **WARNING** This product can expose you to chemical which is known to the State of California to cause cancer and/or reproductive harm. For more information go to www.P65Warnings.ca.gov

Chemical which is known to the State of California to cause cancer

CAS # 50-00-0 Formaldehyde

Chemical which is known to the State of California to cause development toxicity

CAS # 67-56-1 Methanol

Chemical which is known to the State of California to cause male reproductive toxicity

No ingredients listed.

Chemical which is known to the State of California to cause female reproductive toxicity

No ingredients listed.

Section 15 Regulatory Information (Continued)

Massachusetts Right To Know (RTK) List

CAS # 7664-38-2	Phosphoric Acid
CAS # 67-56-1	Methanol
CAS # 7440-09-7	Potassium
CAS # 50-00-0	Formaldehyde
CAS # 7440-23-5	Sodium

New Jersey Dept. of Health Right To Know (RTK) List

CAS # 7664-38-2	Phosphoric Acid
CAS # 67-56-1	Methanol
CAS # 7440-09-7	Potassium
CAS # 50-00-0	Formaldehyde
CAS # 7440-23-5	Sodium

Pennsylvania Right To Know (RTK) List

CAS # 7664-38-2	Phosphoric Acid
CAS # 67-56-1	Methanol
CAS # 7440-09-7	Potassium
CAS # 50-00-0	Formaldehyde
CAS # 7440-23-5	Sodium

EU Regulations

This SDS complies with EC Regulations 1907/2006 (REACH) and amendments.

Water Hazard Class (Germany)

WGK 1, low water endangering

REACH 1907/2006 EC - Annex XIV - list of substances subject to authorization.

Refer to Section 3

Canada

This product is exempt from WHMIS label and SDS requirements.

15.2 Chemical Safety Assessment

A Chemical Safety Assessment has not been carried out.

Some hazardous ingredients listed in Section 15 are below the cutoff limits of 0.1% for carcinogen, mutagen and reproductive toxin and 1% for other health hazards required for reporting in Section 3.

Section 16 Other Information

Beckman Coulter Safety Rating	**Flammability: 0** **Health: 2** **Reactivity with Water: 0** **Physical Contact: 2**	Code 0=None 1=Slight 2=Caution 3=Severe

Revision Changes

Removed the classification of EC Directives 1999/45/EC and 67/548/EEC from Sec. 2.1. Sec 3.2 and 15.1

Updated Section 4, 8, 11, 12, 15

Updated Section 5.

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Description of hazard Class and hazard statements from Section 3

Acute Tox. Dermal 3 - Acute Toxicity Dermal, Category 3
Acute Tox. Inhal. 2 - Acute Toxicity Inhalation, Category 2
Acute Tox. Inhal. 3 - Acute Toxicity Inhalation, Category 3
Acute Tox. Oral 3 - Acute Toxicity Oral, Category 3
Acute Tox. Oral 4 - Acute Toxicity Oral, Category 4
Eye Dam. 1 - Eye Damage Category 1
Eye Irrit. 2 - Eye Irritation Category 2
Flam. Liq. 2 - Flammable Liquids, Category 2
Flam. Liq. 4 - Flammable Liquids, Category 4
Resp. Sens. 1 - Respiratory Sensitization Category 1
Skin Corr. 1B - Skin Corrosion Category 1B
Skin Irrit. 2 - Skin Irritation Category 2
Skin Sens. 1 - Skin Sensitization Category 1
STOT SE 1 - Specific Target Organ Toxicity Single Exposure Category 1
STOT SE 3 - Specific Target Organ Toxicity Single Exposure Category 3
H225 - Highly flammable liquid and vapour.
H227 - Combustible Liquid
H301 - Toxic if swallowed.
H302 - Harmful if swallowed.
H311 - Toxic in contact with skin.
H314 - Causes severe skin burns and eye damage.
H315 - Causes skin irritation.
H317 - May cause an allergic skin reaction.
H318 - Causes serious eye damage.
H319 - Causes serious eye irritation.
H330 - Fatal if inhaled.
H331 - Toxic if inhaled.
H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335 - May cause respiratory irritation.

Section 16 Other Information (Continued)

H370 - Causes damage to organs.
H370 - Causes damage to organs (Respiratory system)
H370 - Causes damage to organs (Liver and Kidney)
H370 - Causes damage to organs (Kidney)
H370 - Causes damage to organs (Liver)

Abbreviations and Acronyms

ACGIH - American Conference of Governmental Industrial Hygienists
ADR and RID - European Agreement Concerning The International Carriage Of Dangerous Goods By Road and Rail
CERCLA - The Comprehensive Environmental Response, Compensation, and Liability Act
CLP - Classification, Labeling and Packaging
DFGMAK - Republic Germany's maximum exposure limit
GHS - Globally Harmonized System
HCS - Hazard Communication Standard
IARC - International Agency for Research on Cancer
IATA DGR - International Air Transport Association Dangerous Goods Regulation
ICAO - International Civil Aviation Organization
IMDG - International Maritime Dangerous Goods
IOELVs - European Unions' Indicative Occupational Exposure Limit Values
NIOSH - National Institute for Occupational Safety and Health
NTP - National Toxicology Program
OSHA - Occupational Safety and Health Administration
PBT - Persistent bioaccumulative and toxic substances
SARA - Superfund Amendments and Reauthorization Act
TDG - Canadian Transportation Of Dangerous Goods Regulations.
UN GHS - United Nations Globally Harmonized System
US DOT - United States Department of Transportation
WHMIS - Workplace Hazardous Material Information System
vPvB - Very persistent and very bioaccumulative substances
LD50 - Lethal Dose, 50%
LC50 - Lethal Concentration, 50%
EC50 - Effective Concentration, 50%

For further information, please contact your local Beckman Coulter, Inc. representative.