Diagnostic BioSystems

Safety Data Sheet
10X Citrate Buffer for Epitope Recovery (pH 6, 7, 8) (EU)

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Product name	10X Citrate Buffer for Epitope Recovery (pH 6, 7, 8) (EU)
Product number	K035, K035-500AN, K036, K037
Brand	10X Citrate Buffer for Epitope Recovery (pH 6, 7, 8)

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

For In Vitro Diagnostic use.
Immunohistochemistry
In Situ Hybridization

1.3 Details of the supplier of the safety data sheet

Name	Diagnostic Biosystems
Address	6616 Owens Drive Pleasanton CA 94588 USA
Telephone	(888) 896-3350
email	customersupport@dbiosys.com

1.4 Emergency telephone number

(925) 484-3350 (Mon - Fri- 9AM-4PM, Pacific Standard Time)

SECTION 2: Hazards identification

General hazard statement
For professional users only

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 (CLP)

- Acute toxicity, dermal (chapter 3.1), Cat. 5, H313
- Acute toxicity, inhalation (chapter 3.1), Cat. 5, H333
- Acute toxicity, oral (chapter 3.1), Cat. 5, H303
- Acute toxicity, dermal (chapter 3.1), Cat. 1, H310
- Acute toxicity, inhalation (chapter 3.1), Cat. 2, H330

- Acute toxicity, oral (chapter 3.1), Cat. 2, H300
- Hazardous to the aquatic environment, short-term (acute) (chapter 4.1), Cat. 1, H400
- Hazardous to the aquatic environment, long-term (chronic) (chapter 4.1), Cat. 1, H410
- Serious eye damage/eye irritation (chapter 3.3), Cat. 2
- Specific target organ toxicity following repeated exposure (chapter 3.9), Cat. 2, H373

For the full text corresponding to the "H"-codes displayed in this section, refer to Section 16.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 [CLP]

Hazard pictograms

1. Skull and crossbones; 2. Exclamation mark; 3. Health hazard; 4. Environment

Signal word **Warning**

Hazard statements

H300	Fatal if swallowed
H310	Fatal in contact with skin
H319	Causes serious eye irritation
H330	Fatal if inhaled
H373	May cause damage to organs through prolonged or repeated exposure
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects

Precautionary statements

P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P262	Do not get in eyes, on skin, or on clothing.
P264	Wash hands thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P284	[In case of inadequate ventilation] wear respiratory protection.
P301+P310	IF SWALLOWED: Immediately call a POISON CENTER/doctor.
P302+P352	IF ON SKIN: Wash with plenty of water.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER/doctor.
P314	Get medical advice/attention if you feel unwell.
P330	Rinse mouth.
P337+P313	If eye irritation persists: Get medical advice/attention.
P361+P364	Take off immediately all contaminated clothing and wash it before reuse.
P391	Collect spillage.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.
P501	Dispose of contents/container to a licensed disposal company.

2.3 Other hazards

No data available.

Statement regarding ingredients of unknown toxicity
No data available.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Hazardous components

1. SODIUM AZIDE

Concentration	0.01 - 0.1 % (weight)
Other names / synonyms	Sodium azide (Na(N3))
EC no.	247-852-1
CAS no.	26628-22-8
Index no.	011-004-00-7

- Acute toxicity, dermal (chapter 3.1), Cat. 1
- Acute toxicity, inhalation (chapter 3.1), Cat. 2
- Acute toxicity, oral (chapter 3.1), Cat. 2
- Specific target organ toxicity, repeated exposure (chapter 3.9), Cat. 2
- Hazardous to the aquatic environment, short-term (acute) (chapter 4.1), Cat. 1
- Hazardous to the aquatic environment, long-term (chronic) (chapter 4.1), Cat. 1

2. Citric acid

Concentration	0.1 - 1 % (weight)
Other names / synonyms	1,2,3-Propanetricarboxylic acid, 2-hydroxy-; 1,2,3-Propanetricarboxylic acid, 2-hydroxy-, monohydrate; 2-Hydroxy-1,2,3-propanetricarboxylic acid; Acidum citricum; ACILETTEN; ANHYDROUS CITRIC ACID; BETA-HYDROXYTRICARBALLYLIC ACID; CITRETTEN; CITRICACID; CITRO; HYDROCEROL A
EC no.	201-069-1
CAS no.	77-92-9

- Eye damage/irritation (chapter 3.3), Cat. 2

SECTION 4: First aid measures

4.1 Description of first aid measures

General notes	In case of accident or if you feel unwell, seek medical advice immediately (show the label or SDS where possible).
Following inhalation	Call a poison center or doctor if you feel unwell.

	Acute and delayed symptoms and effects: May cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.
Following skin contact	Wash with plenty of soap and water for at least 15 minutes. Call a poison center or doctor if you feel unwell. Acute and delayed symptoms and effects: May cause skin irritation. Signs/symptoms may include localized redness, swelling, and itching.
Following eye contact	Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or doctor. Acute and delayed symptoms and effects: May cause eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.
Following ingestion	Call a poison center or doctor if you feel unwell. If vomiting occurs naturally, have victim lean forward to reduce the risk of aspiration. Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Acute and delayed symptoms and effects: May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.
Self-protection of the first aider	General industrial hygiene practice.

4.2 Most important symptoms and effects, both acute and delayed
The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed
No data available

SECTION 5: Firefighting measures

5.1 Extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture
Carbon oxides

SODIUM AZIDE: Sodium oxides

5.3 Advice for firefighters
Wear self-contained breathing apparatus for firefighting if necessary.

Further information
Use water spray to cool unopened containers.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Use personal protection recommended in Section 8.
As an immediate precautionary measure, isolate spill or leak area in all directions. Keep unauthorized personnel away. Stay upwind. Keep out of low areas. Ventilate enclosed areas.

6.2 Environmental precautions
Do not let product enter drains unless in accordance with Federal, Sate and local laws and regulations.

6.3 Methods and material for containment and cleaning up
Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

6.4 Reference to other sections
For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling
Avoid contact with skin and eyes. Avoid inhalation of vapor or mist. For precautions see section 2.

7.2 Conditions for safe storage, including any incompatibilities
Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

7.3 Specific end use(s)
Apart from the uses mentioned in section 1 no other specific uses are stipulated.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

CAS: 26628-22-8 (EC: 247-852-1)
Sodium azide
ACGIH: 0.29 mg/m3 (C); 0.1 ppm (C) hydrazoic acid vapor TLV® inhalation; NIOSH: 0.29 mg/m3 (C); 0.1 ppm (C) hydrazoic acid vapor REL-C inhalation

8.2 Exposure controls

Appropriate engineering controls
Use ventilation adequate to keep exposures (airborne levels of dust, fume, vapor, gas, etc.) below recommended exposure limits.

Individual protection measures, such as personal protective equipment

Pictograms

Eye and face protection
Safety glasses if there is a splash hazard. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection
Protective gloves. Consult manufacturer specifications for further information.

Body protection
Wear protective clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection
Not required under normal use conditions. Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multipurpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Thermal hazards
No data available.

Control banding approach
No data available.

Environmental exposure controls
Do not let product enter drains.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	Liquid
Appearance	Transparent
Colour	Clear
Odour	None
Odour threshold	No data available.
pH	6.0 - 8.0
Melting point/freezing point	No data available.
Boiling point or initial boiling point and boiling range	No data available.
Flash point	No data available.
Evaporation rate	No data available.
Flammability	No data available.
Lower and upper explosion limit/flammability limit	No data available.
Vapor pressure	No data available.
Relative vapor density	No data available.
Density and/or relative density	No data available.
Solubility	No data available.
Partition coefficient n-octanol/water (log value)	No data available.
Auto-ignition temperature	No data available.
Decomposition temperature	No data available.
Kinematic viscosity	No data available.
Explosive properties	No data available.
Oxidizing properties	No data available.

Particle characteristics
No data available.

9.2 Other information

9.2.1 Information with regard to physical hazard classes
No data available.

9.2.2 Other safety characteristics
No data available.

SECTION 10: Stability and reactivity

10.1 Reactivity
No data available.

10.2 Chemical stability
Stable under normal conditions.

10.3 Possibility of hazardous reactions
No data available.

10.4 Conditions to avoid
Contact with incompatible materials. Sources of ignition. Exposure to heat.

10.5 Incompatible materials
Citric acid: Oxidizing agents, Bases, Reducing agents, Nitrates

10.6 Hazardous decomposition products
Other decomposition products - No data available
In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity
Likely Routes of Exposure: Eye contact. Skin contact. Inhalation. Ingestion.

Symptoms (including delayed and immediate effects):
Inhalation: May cause respiratory irritation. Signs/symptoms may include cough, sneezing,nasal discharge, headache, hoarseness, and nose and throat pain.
Ingestion: May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

EDTA
LD50 Oral - Rat - male and female - 4,500 mg/kg

EDTA
- Lepomis macrochirus (bluegill) - 80 µg/l - 28 d
Result: Bioconcentration factor (BCF): 1.8

EDTA

Result: IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

EDTA
static test LC50 - Lepomis macrochirus (bluegill) - 41 mg/l - 96 h

EDTA
static test EC50 - Daphnia magna (water flea) - 625 mg/l - 48 h

EDTA

Result: PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

Polyoxyethylene sorbitan monolaurate
LD50 Oral - Rat - 40,554.0 mg/kg

Polyoxyethylene sorbitan monolaurate
LC50 - Other fish - 350 mg/l - 24 h

The ATE (dermal) of the mixture is: 5000 mg/kg bw

The ATE (gas inhalation) of the mixture is: 100000 ppmV

The ATE (oral) of the mixture is: 5000 mg/kg bw

Skin corrosion/irritation
May cause skin irritation. Signs/symptoms may include localized redness, swelling, and itching.

Serious eye damage/irritation
May cause eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

Respiratory or skin sensitization
No data available.

Germ cell mutagenicity
No data available.

Carcinogenicity
IARC: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by IARC.
ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity
No data available.

Summary of evaluation of the CMR properties

No data available.

STOT-single exposure
No data available.

STOT-repeated exposure
No data available.

Aspiration hazard
No data available.

11.2 Information on other hazards

Endocrine disrupting properties
No data available.

SECTION 12: Ecological information

12.1 Toxicity
No data available.

12.2 Persistence and degradability
No data available.

12.3 Bioaccumulative potential
No data available on product

12.4 Mobility in soil
No data available.

12.5 Results of PBT and vPvB assessment
PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Endocrine disrupting properties
No data available.

12.7 Other adverse effects
No data available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product disposal
Dispose of contents/ container in accordance with the local/regional/national/international regulations. Non Household Setting:

Products covered by this SDS, in their original form, when disposed as waste, are considered non hazardous waste.

Packaging disposal
Dispose of as unused product.

Waste treatment
No data available.

Sewage disposal
Sewage disposal is not recommended

Other disposal recommendations
Offer surplus and non-recyclable solutions to a licensed disposal company.

SECTION 14: Transport information

14.1	UN Number	None
14.2	UN Proper Shipping Name	None
14.3	Transport hazard class(es)	None
14.4	Packing group	None
14.5	Environmental hazards	None
14.6	Special precautions for user	None
14.7	Maritime transport in bulk according to IMO instruments	None

SECTION 15: Regulatory information

15.2 Chemical Safety Assessment
The manufacturer has not performed any additional chemical safety assessments

HMIS Rating

10X Citrate Buffer for Epitope Recovery (pH 6, 7, 8) (EU)	
HEALTH	* 2
FLAMMABILITY	1
PHYSICAL HAZARD	
PERSONAL PROTECTION	

NFPA Rating

SECTION 16: Other information

Full text of hazard statements referenced in Section 2

H300	Fatal if swallowed
H303	May be harmful if swallowed
H310	Fatal in contact with skin
H313	May be harmful in contact with skin
H330	Fatal if inhaled
H333	May be harmful if inhaled
H373	May cause damage to organs through prolonged or repeated exposure
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects

SDS-0027, Rev. B

Further information/disclaimer

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