

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



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SECTION 1: Identification

1.1 GHS Product identifier

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

1.3 Recommended use of the chemical and restrictions on use

For In Vitro Diagnostic use.
Immunohistochemistry
In Situ Hybridization

1.4 Supplier's details

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

1.5 Emergency phone number

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

SECTION 2: Hazard identification

General hazard statement

For professional users only

2.1 Classification of the substance or mixture

GHS classification in accordance with: OSHA (29 CFR 1910.1200)

- Acute toxicity, dermal (chapter 3.1), Cat. 5
- Acute toxicity, inhalation (chapter 3.1), Cat. 5
- Acute toxicity, oral (chapter 3.1), Cat. 5
- Acute toxicity, dermal (C.4.2), Cat. 1
- Acute toxicity, inhalation (C.4.3), Cat. 2

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- Acute toxicity, oral (C.4.1), 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
- Eye damage/irritation (C.4.5), Cat. 2A
- Specific target organ toxicity (repeated exposure) (C.4.12), Cat. 2

2.2 GHS label elements, including precautionary statements

Pictogram



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

Signal word

Warning

Hazard statement(s)

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

Precautionary statement(s)

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.
P320	Specific treatment is urgent (see ... on this label).
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 which do not result in classification

No data available.

Statement regarding ingredients of unknown toxicity

No data available.

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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 (C.4.2), Cat. 1
- Acute toxicity, inhalation (C.4.3), Cat. 2
- Acute toxicity, oral (C.4.1), Cat. 2
- Specific target organ toxicity (repeated exposure) (C.4.12), 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; CITRETEN; CITRICACID; CITRO; HYDROCEROL A

EC no. 201-069-1

CAS no. 77-92-9

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

SECTION 4: First-aid measures

4.1 Description of necessary first-aid measures

General advice In case of accident or if you feel unwell, seek medical advice immediately (show the label or SDS where possible).

If inhaled 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.

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In case of 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.
In case of 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.
If swallowed	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.
Personal protective equipment for first-aid responders	General industrial hygiene practice.

4.2 Most important symptoms/effects, 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 immediate medical attention and special treatment needed, if necessary

No data available

SECTION 5: Fire-fighting measures

5.1 Suitable extinguishing media

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

5.2 Specific hazards arising from the chemical

Carbon oxides

SODIUM AZIDE: Sodium oxides

5.3 Special protective actions for fire-fighters

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.

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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, State and local laws and regulations.

6.3 Methods and materials for containment and cleaning up

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

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.

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 Appropriate engineering controls

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

8.3 Individual protection measures, such as personal protective equipment (PPE)

Pictograms



Eye/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.

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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 and safety characteristics

Physical state	Liquid
Appearance	Transparent
Color	Clear
Odor	None
Odor 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.

Supplemental information regarding physical hazard classes

No data available.

Further safety characteristics (supplemental)

No data available.

SECTION 10: Stability and reactivity

10.1 Reactivity

No data available.

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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

Information on toxicological effects

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.

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

Citric acid

LD50 Oral - Rat - 5,400 mg/kg

Sodium azide

LD50 Oral - Rat - 27 mg/kg

Skin corrosion/irritation

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

Citric acid

LD50 Skin - Rabbit - > 2,000 mg/kg

Sodium azide

LD50 Skin - Rat - 20 mg/kg

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

Sodium azide

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LC50 Inhalation - Rat - 0.054 - 0.52 mg/l - 4 hr

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.

SECTION 12: Ecological information

Toxicity

Citric acid

EC50 - Daphnia magna (water flea) - 1,535 mg/l - 24 h

Citric acid

LC50 - Leuciscus idus (golden orfe) - 440 mg/l - 48 h

Sodium azide

LC50 - Oncorhynchus mykiss (rainbow trout) - 2.96 mg/l - 96 h

Sodium azide

EC50 - Pseudokirchneriella subcapitata (green algae) - 0.348 mg/l - 96 h

Persistence and degradability

No data available.

Bioaccumulative potential

No data available on product

Mobility in soil

No data available.

Results of PBT and vPvB assessment

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

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Endocrine disrupting properties

No data available.

Other adverse effects

No data available.

SECTION 13: Disposal considerations

Disposal methods

Product disposal

Disposal should be in accordance with applicable Federal, State and local laws and regulations. Local regulations may be more stringent than State or Federal requirements.

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

DOT (US)

UN Number: UN2927

Class: 6.1 (8)

Packing Group: II

Proper Shipping Name: Toxic liquids, corrosive, organic, n.o.s.

Reportable quantity (RQ):

Marine pollutant:

Poison inhalation hazard:

IMDG

UN Number: UN2927

Class: 6.1 (8)

Packing Group: II

EMS Number:

Proper Shipping Name: Toxic liquids, corrosive, organic, n.o.s.

IATA

UN Number: UN2927

Class: 6.1 (8)

Packing Group: II

Proper Shipping Name: Toxic liquids, corrosive, organic, n.o.s.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

California Prop. 65 Components

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This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

Canadian Domestic Substances List (DSL)

Chemical name: Sodium azide (Na(N₃))

CAS: 26628-22-8

Chemical name: 1,2,3-Propanetricarboxylic acid, 2-hydroxy-

CAS: 77-92-9

Chemical name: 1,2,3-Propanetricarboxylic acid, 2-hydroxy-, monohydrate

CAS: 5949-29-1

Massachusetts Right To Know Components

No components are subject to the Massachusetts Right to Know Act.

Chemical name: Sodium azide (Na(N₃))

CAS number: 26628-22-8

New Jersey Right To Know Components

No components are subject to the New Jersey Right to Know Act.

Common name: SODIUM AZIDE

CAS number: 26628-22-8

Citric acid

CAS-No. 77-92-9

Pennsylvania Right To Know Components

No components are subject to the Pennsylvania Right To Know Act.

Chemical name: Sodium azide

CAS number: 26628-22-8

Citric acid

CAS-No. 77-92-9

SARA 302 Components

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302

SARA 311/312 Hazards

No SARA Hazards

Acute Health Hazard

SARA 313 Components

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Seveso Directive

Yes. H2 -acute toxic. E1

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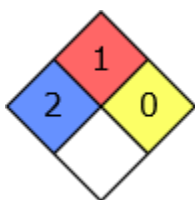
15.2 Chemical Safety Assessment

The manufacturer has not performed any additional chemical safety assessments

HMIS Rating

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

NFPA Rating



SECTION 16: Other information

SDS-0027, Rev. C

16.1 Further information/disclaimer

DISCLAIMER: The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigation to determine the suitability of information for their particular purposes. In no event shall Diagnostic Biosystems be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, whatsoever arising, even if Diagnostic Biosystems has been advised of the possibility of such damages.