SAFETY DATA SHEET

Date of issue: 15.01.2025
According to Regulation (EC) No. 2020/878 & 1272/2008

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

1.1 Product Identifier

REF: HE3, HE4, HE10, HE15, HE13A

Product name: HEMOGLOBIN ELECTROPHORESIS (IN ALKALI)

REACH registration number: The annual tonnage does not require registration

Kit Components/Mixtures (Buffers):

- Pre-cast agarose gels
- Hemoglobin electrophoresis buffer 50X
- Hemolyzing solution
- Staining solution 5X
- Destaining solution

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

Laboratory reagents intended for in vitro diagnosis

1.3 Details of the supplier of the safety data sheet

Manufactured by:
DIMITRIADIS IOANNIS AND SON PC Production of Electrophoresis Products Business Incubator Thermi, Steliou Kazantzidi 47, 57001 THERMI PO BOX 8101, GREECE Email: hellabio@hellabio.com. www.hellabio.com TEL (+30) 2311 999911

1.4 Emergency telephone number

Call (+30) 2311 999911 (Hellabio, Thessaloniki, Greece) for general information. In case of an emergency please contact your country's poison control center.

SECTION 2: Hazard identification

2.1 Classification of the substance or mixture according to Regulation (EC) 1272/2008

Pre-cast agarose gels
Does not meet the criteria for classification in accordance with Regulation (EC) No1272/2008 (CLP).

Hemoglobin electrophoresis buffer (alkaline) 50X

Signal word: Warning

Health Hazards	**Hazard Category**
May damage fertility. Suspected of damaging the unborn child.	Repr. 1B
Harmful if swallowed	Acute Tox. 2
Harmful in contact with skin	Acute Tox. 4
Causes skin irritation	Skin Irrit. 2
Causes serious eye irritation	Eye Irrit. 2

Environmental Hazards	**Hazard Category**
Harmful to aquatic life with long lasting effects	Aquatic Chronic 3

Hemolyzing solution

Signal word: Warning

Health Hazards	**Hazard Category**
Harmful if swallowed	Acute Tox. 2
Harmful in contact with skin	Acute Tox. 4
Causes skin irritation	Skin Irrit. 2
Causes serious eye irritation	Eye Irrit. 2

Environmental Hazards	**Hazard Category**
Harmful to aquatic life with long lasting effects	Aquatic Chronic 3

Staining solution 5X

Signal word: Warning

Health Hazards	**Hazard Category**
Causes serious eye irritation	Eye Irrit. 2
May cause an allergic skin reaction	Skin Sens. 1B
May cause respiratory irritation	STOT SE 3

Destaining solution

Signal word: Warning

Health Hazards	**Hazard Category**
Causes serious eye irritation	Eye Irrit. 2
May cause an allergic skin reaction	Skin Sens. 1B
May cause respiratory irritation	STOT SE 3

2.2 Labeling Elements

Pre-cast agarose gels
Does not need labeling as hazardous
Signal word: -

Hemoglobin electrophoresis buffer 50X

Signal word: Warning

Hazard statements	Hazard Class
H302	Acute Tox. 4
H315	Skin Irrit. 2
H319	Eye Irrit. 2
H412	Aquatic Chronic 3

Precautions/Prevention
P203- Obtain, read, and follow all safety instructions before use
P280- Wear protective gloves, protective clothing, eye protection, face protection
P264- Wash hands thoroughly after handling
P270- Do not eat, drink, or smoke when using this product
P273- Avoid release to the environment

Hemolyzing solution

Signal word: Danger

Hazard statements	Hazard Class
H302	Acute Tox. 4
H312	Acute Tox. 4
H315	Skin Irrit. 2
H319	Eye Irrit. 2
H412	Aquatic Chronic 3

Precautions/Prevention
P203- Obtain, read, and follow all safety instructions before use

P280- Wear protective gloves, protective clothing, eye protection, face protection
P264- Wash hands thoroughly after handling
P270- Do not eat, drink, or smoke when using this product
P273- Avoid release to the environment

Staining solution 5X

Signal word: Warning

Hazard statements	**Hazard Class**
H319	Causes serious eye irritation
H317	May cause an allergic skin reaction
H335	May cause respiratory irritation

Precautions/Prevention
P203- Obtain, read, and follow all safety instructions before use
P280- Wear protective gloves, protective clothing, eye protection, face protection
P264- Wash hands thoroughly after handling
P261- Avoid breathing dust/fume/gas/mist/vapours/spray

Destaining solution

Signal word: Warning

Hazard statements	**Hazard Class**
H319	Causes serious eye irritation
H317	May cause an allergic skin reaction
H335	May cause respiratory irritation

Precautions/Prevention
P203- Obtain, read, and follow all safety instructions before use
P280- Wear protective gloves, protective clothing, eye protection, face protection
P264- Wash hands thoroughly after handling
P261- Avoid breathing dust/fume/gas/mist/vapours/spray

2.3 Other Hazards

Not applicable

SECTION 3: Composition/information on ingredients

3.1 Substances / 3.2 Mixtures

Pre-cast agarose gels
All components present no significant physical or chemical hazard at the concentration used.

Hemoglobin electrophoresis buffer 50X

Component	Cas number	Conc.-%	Hazard Statement
Boric Acid	10043-35-3	5%	H360FD- Repr. toxicity 1B
Na_2EDTA	6381-92-6	2%	H302- Acute Tox.4 H312- Acute Tox.4 H315- Skin Irrit. 2 H319- Eye Irrit. 2 H412- Aquatic Chronic 3

Hemolyzing solution

Component	Cas number	Conc.-%	Hazard Statement
Triton X-100 [Polyethylene glycol p-(1,1,3,3-tetramethylbutyl)phenyl ether]	9002-93-1	1%	H302- Acute Tox.4 H315- Skin Irrit. 2 H319- Eye Irrit. 2 H412- Aquatic Chronic 3

Staining solution 5X

Component	Cas number	Conc.-%	Hazard Statement
Citric Acid	77-92-9	5.5%	H319- Causes serious eye irritation
Amido Black	1064-48-8	1.5%	H317- May cause an allergic skin reaction

Destaining solution

Component	Cas number	Conc.-%	Hazard Statement
Citric Acid	77-92-9	40-44%	H319- Causes serious eye irritation H317- May cause an allergic skin reaction H335- May cause respiratory irritation

All other components present no significant physical or chemical hazard at the concentration used.

SECTION 4. First aid measures

4.1 Description of first aid measures

Skin contact:
Remove contaminated clothing immediately. Rinse the affected skin or mucous membrane thoroughly for 15 minutes under running water.
Eye contact:
Rinse the affected eye(s) thoroughly under running water for at least 10 minutes. Further treatment by a physician should follow.

Inhalation:
Transfer the affected person(s) to fresh air. If symptoms persist, call a physician.

Oral intake/ingestion:
Contact IMMEDIATELY with your country's poison control center

4.2 Most important symptoms and effects, both acute and delayed
In most cases, a rapid rinse with water is sufficient to alleviate the symptoms. However, prolonged exposure can lead to irritation and damage to the eyes and skin.

4.3 Indication of any immediate medical attention and special treatment needed
In case of oral intake/ingestion contact with country's poison control center and/or a physician IMMEDIATELY.

SECTION 5: Firefighting measures

5.1 Extinguishing media
All mixtures are non-flammable. Suitable extinguishing media: Water spray. Carbon dioxide (CO2). Foam. Dry chemical. Not suitable extinguishing media: No data available.

5.2 Special hazards arising from the substance or mixture
No data available

5.3 Advice for firefighters
Wear protective suit with breathing apparatus

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Ensure adequate ventilation. Do not inhale vapors. Remove any contaminated clothing Avoid contact with bare skin and use personal protective equipment (PPE). Clean with caution.

6.2 Environmental precautions
Avoid spilling into drains and waterways whenever possible. Buffers containing Triton-X100 and Na_2EDTA pose a danger to the environment.

6.3 Methods and material for containment and cleaning up
Wipe spillage with caution using absorbent paper. Do not touch with bare hands/skin. Rinse with water.

6.4 Reference to other sections
See section 3 for hazard information of each mixture

SECTION 7: Handling and storage

7.1 Precautions for safe handling
Always follow the instructions for use. Each kit should be stored horizontally, as indicated on the label. Use personal protective equipment (Wear protective gloves, protective clothing, eye protection, face protection).

7.2 Conditions for safe storage, including any incompatibilities
Store in a dry, cool and well-ventilated area between 15-25^{o}C.

7.3 Specific end use(s)
This kit is intended for in vitro diagnosis.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters/ Occupational exposure limits (OELs)

Component	Cas Number	ACGIH TLV© 8-hour TWA	CAL/OSHA PEL
Boric Acid	10043-35-3	2 mg/m^3 (Inhalable)	-
Triton X-100	9002-93-1	1 mg/m^3	-
Na_2EDTA	6381-92-6	-	-

8.2 Exposure controls

Use personal protective equipment (PPE)
Eye protection: Use safety glasses, avoid contact.
Skin/Hand protection: Avoid direct contact of the product with skin, immediately remove any clothing soiled with the product and wash contaminated skin with soapy water. Use personal protective equipment, proper clothing and gloves.
Respiratory protection: Avoid fumes, use in well-ventilated areas.
Thermal hazards: Not applicable.

SECTION 9: Exposure controls/personal protection

9.1 Information on basic physical and chemical properties

Pre-cast Agarose gels

Physical state	Solid
Colour	Colorless
Odour	Odourless
Odour threshold	No data available
pH	9±0.2
Melting point/freezing point	No data available
Initial boiling point and boiling range	90 - 100°C
Flash point:	No data available
Evaporation rate:	No data available
Flammability (solid, gas)	Not flammable
Upper/lower flammability or explosive limits	No data available
Vapour pressure:	23 hPa
Vapour density:	No data available
Relative density:	No data available
Solubility(ies)	-
Partition coefficient: n-octanol/water	No data available
Auto-ignition temperature	No data available
Decomposition temperature:	No data available
Viscosity:	-
Explosive properties:	Not explosive

Hemoglobin electrophoresis buffer 50X

Physical state	Liquid
Colour	Colorless
Odour	Odourless
Odour threshold	No data available
pH	8.8
Melting point/freezing point	No data available
Initial boiling point and boiling range	90 - 100°C
Flash point:	No data available
Evaporation rate:	No data available
Flammability (solid, gas)	Not flammable
Upper/lower flammability or explosive limits	No data available
Vapour pressure:	23 hPa
Vapour density:	No data available
Relative density:	No data available
Solubility(ies)	Miscible with water
Partition coefficient: n-octanol/water	No data available
Auto-ignition temperature	No data available
Decomposition temperature:	No data available
Viscosity:	No data available
Explosive properties:	Not explosive

Hemolyzing solution

Physical state	Liquid
Colour	Colorless
Odour	Odourless
Odour threshold	No data available
pH	6.7
Melting point/freezing point	No data available
Initial boiling point and boiling range	90 - 100°C
Flash point:	No data available
Evaporation rate:	No data available
Flammability (solid, gas)	Not flammable
Upper/lower flammability or explosive limits	No data available
Vapour pressure:	23 hPa
Vapour density:	No data available
Relative density:	No data available
Solubility(ies)	Miscible with water
Partition coefficient: n-octanol/water	No data available
Auto-ignition temperature	No data available
Decomposition temperature:	No data available
Viscosity:	No data available
Explosive properties:	Not explosive

Staining solution 5X

Physical state	Liquid
Colour	Dark blue
Odour	light
Odour threshold	No data available
pH	<2
Melting point/freezing point	No data available
Initial boiling point and boiling range	No data available
Flash point:	No data available
Evaporation rate:	No data available
Flammability (solid, gas)	Not flammable
Upper/lower flammability or explosive limits	No data available
Vapour pressure:	No data available
Vapour density:	No data available
Relative density:	No data available
Solubility(ies)	Miscible with water
Partition coefficient: n-octanol/water	No data available
Auto-ignition temperature	No data available
Decomposition temperature:	No data available
Viscosity:	No data available
Explosive properties:	Not explosive

Destaining solution

Physical state	Liquid
Colour	Colourless

Odour	light
Odour threshold	No data available
pH	<2
Melting point/freezing point	No data available
Initial boiling point and boiling range	No data available
Flash point:	No data available
Evaporation rate:	No data available
Flammability (solid, gas)	Not flammable
Upper/lower flammability or explosive limits	No data available
Vapour pressure:	No data available
Vapour density:	No data available
Relative density:	No data available
Solubility(ies)	Miscible with water
Partition coefficient: n-octanol/water	No data available
Auto-ignition temperature	No data available
Decomposition temperature:	No data available
Viscosity:	No data available
Explosive properties:	Not explosive

9.2 Other information
No other relevant information

SECTION 10: Stability and reactivity

10.1 Reactivity
The product is stable in conditions provided by the manufacturer.

10.2 Chemical stability
No decomposition if stored and applied as directed. The product is stable when normal handling in accordance with conditions provided by the manufacturer.

10.3 Possibility of hazardous reactions
No data available

10.4 Conditions to avoid
Avoid heat.

10.5 Incompatible materials
No data available

10.6 Hazardous decomposition products
No data available

SECTION 11: Toxicological information

There is no available data for the mixtures/buffers. Toxicity levels of chemicals used in mixtures are stated below. For Information on hazard classes as defined in Regulation (EC) No 1272/2008 see sections 2 and 3.

Acute toxicity

Component	**LD50 (Oral - Rat)**
Boric acid	2660 mg/kg
Citric Acid	5000 mg/kg
Amido Black	> 5000 mg/kg
Na_2EDTA	2000 mg/kg
Triton X-100	1200 mg/kg

Skin corrosion/irritation: May irritate skin
Serious eye damage/irritation: Irritant for the eye
Respiratory or skin sensitization: No data available
Germ cell mutagenicity: No data available
Carcinogenicity: No data available
Reproductive toxicity: No data available
STOT-single exposure: No data available
STOT-repeated exposure: No data available
Aspiration hazard: No data available

SECTION 12: Ecological information

12.1 Ecological Toxicity
Mixtures containing Triton-X100 (Cas: 9002-93-1) and Na_2EDTA (Cas: 6381-92-6) pose a danger to the environment and aquatic organisms with long lasting effects. Avoid release to the environment and ensure proper disposal methods. Quickly contain and manage any spillage, with appropriate cleanup materials. Do not spill into drains and waterways.
12.2 Persistence and degradability
No data available
12.3 Bioaccumulative potential
No data available
12.4 Mobility in soil
No data available
12.5 Results of PBT and vPvB assessment
No data available
12.6 Endocrine disrupting properties
No data available
12.7 Other adverse effects
No other relevant information

SECTION 13: Disposal considerations

13.1 Waste treatment methods

It is crucial to handle and dispose of chemicals in compliance with local, regional, and national regulations to prevent environmental contamination or harm to public health. Users are advised to exercise caution when managing waste, ensuring that disposal methods minimize risks to human health and the environment. Proper waste treatment can involve neutralization, incineration, or disposal at a licensed facility designed to handle hazardous substances. Always consult local waste disposal guidelines and regulatory authorities to ensure full compliance with your country's laws regarding hazardous material disposal.

SECTION 14: Transport information

14.1 UN number or ID number
Not applicable
14.2 UN proper shipping name
Not applicable
14.3 Transport hazard class(es)
Not applicable
14.4 Packing group
No limits
14.5 Environmental hazards
Avoid spillage to the environment
14.6 Special precautions for user
Not applicable
14.7 Maritime transport in bulk according to IMO instruments
Not applicable

SECTION 15: Regulatory information

This Material Safety Data Sheet (MSDS) was prepared in accordance with Regulation (EC) No 1907/2006 (REACH), No 1272/2008 and No 2020/878.
The supplier has not carried out a chemical evaluation or safety assessment for the substance or mixture.

SECTION 16: Other information

The information provided in this Material Safety Data Sheet (MSDS) is intended solely for safety guidance and is based on the best available knowledge at the time of publication. It is not intended to be a warranty. The manufacturer or distributor does not assume any liability for the misuse or improper handling of the product. Always refer to the latest regulatory information and consult with safety experts when necessary.