

Safety Information
Mouse TGF-beta 1 ELISA

Revision Date: 1.4.2016

The RAF123R Mouse TGF- β 1 ELISA is an enzyme-linked immunosorbent assay for the quantitative detection of mouse TGF- β 1.

For professional use only. Users should have a thorough understanding of the Product Data Sheet prior to their use of this kit.

Kit Components:

- A) Antibody Coated Microtiter Strips
- B) Biotin-Conjugate
- C) Streptavidin-HRP
- D) Standard lyophilized
- E) Assay Buffer Concentrate 20x
- F) Wash Buffer Concentrate 20x
- G) 1N HCl
- H) 1N NaOH
- I) Substrate Solution
- J) Stop Solution
- K) Adhesive Films

1N HCl and 1N NaOH are hazardous mixtures according to CLP Regulation (EC) as amended. Safety Data Sheets for these mixtures according to actual Regulations (EC/EU) are attached. The other components do not contain any hazardous mixture according to CLP Regulation (EC) as amended

Safety Data Sheet for the Stop Solution (1M H₃PO₄) according to actual Regulations (EC/EU) is attached, too.

MATERIAL SAFETY DATA SHEET

in accordance with Regulation (EC) No. 1907/2006 of the European Parliament
and the Council (REACH) and Commission Regulation (EU) No. 830/2015

1N HYDROCHLORIC ACID, 1N HCL

Date of issue: 3.7.2015
Supersedes date: 8.2.2010

SECTION 1 IDENTIFICATION OF THE PREPARATION AND OF COMPANY/UNDERTAKING

1.1 Identification of the preparation:

Identification on the label / trade name: 1N Hydrochloric acid, 1N HCl
Additional identification: ca. 3% HCl

1.2 Use of the preparation:

The hydrochloric acid is used to acidify the samples.

1.3 Company/undertaking identification:

BioVendor - Laboratorní medicína a.s.
Karásek 1767/1
621 00 Brno
Czech Republic
Identification number: 63471507
Tel: +420 549 124 185
E-mail: info@biovendor.com

1.4 Emergency telephone number:

Toxicology information center, Na Bojišti 1, 128 21 Prague, Czech Republic, Tel: +420 224 919 293 or +420 224 915 402 (non-stop service).

SECTION 2 HAZARDS IDENTIFICATION

2.1 Hazards description:

Causes corrosion / irritation

2.2 Classification:

Classification according to Regulation 1272/2008/EC:

Hazard classes / Hazard categories / Hazard statement

3.1 / Category 4 / H302, H312

3.2 / Category 2 / H315

3.3 / Category 2 / H319

4.1 / Category 4 / H413

Signal word: Warning

Hazard pictograms:



Hazard statements:

H302, H312, H315, H319, H413

Precautionary statements:

P281, P301, P302, P305, P330, P404, P410

MATERIAL SAFETY DATA SHEET

in accordance with Regulation (EC) No. 1907/2006 of the European Parliament and the Council (REACH) and Commission Regulation (EU) No. 830/2015

1N HYDROCHLORIC ACID, 1N HCL

Date of issue: 3.7.2015
Supersedes date: 8.2.2010

2.3 Remark:

Full text of H-phrases: see section 16.

SECTION 3 COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Preparation / mixture related information

Description: Mixture of mentioned below ingredients:

3.2 Ingredients:

Chemical name	EC-No	Index-No	CAS-No	Amount (%)	Classification according Regulation (EC) No 1272/2008 [CLP]	
					Hazard class/ Hazard categories	Hazard-statement
Hydrochloric Acid Water, dest.	231595-7 231-791-2	017-002-01-X -	7647-01-0 7732-18-5	32 -	3.2/ Category 1B -	H314 -

SECTION 4 FIRST AID MEASURES

4.1 General information:

Skin- and eye-contact causes irritation
In case of indisposition contact a doctor, show this datasheet.

4.2 In case of skin contact:

Wash affected body parts with plenty amount of water.

4.3 In case of eye contact:

Wash the affected eye with water for a minimum of 10 minutes.
In case of indisposition contact an eye-specialist.

4.4 In case of ingestion:

Immediately wash your mouth with plenty of water.
Furthermore, swallow water in small amounts (dilution)

SECTION 5 FIRE-FIGHTING MEASURES

5.1 Suitable extinguishing media:

Water, dry powder extinguisher, carbondioxid

5.2 Extinguishing media which must not be used for safety reasons:

Attention with dry powder extinguisher.
It's not appropriate for in door fire because raised foam causes lack of sight.

MATERIAL SAFETY DATA SHEET

in accordance with Regulation (EC) No. 1907/2006 of the European Parliament
and the Council (REACH) and Commission Regulation (EU) No. 830/2015

1N HYDROCHLORIC ACID, 1N HCL

Date of issue: 3.7.2015
Supersedes date: 8.2.2010

5.3 Special exposure hazards arising from the substance or preparation itself, combustion products, resulting gases:

In case of fire, despite flue gas also dangerous, product specific gases might be produced. Because of the very low concentration of this mixture it is very unlikely that oxides will be produced in a hazard amount.

Further data are not known.

5.4 Special protective equipment for fire-fighters:

In case of heavy smoke, a respirator shall be used.

SECTION 6 ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions:

In case of spilled mixture safety gloves have to be worn to prevent skin contact.

In case of big amounts an additional inhalation protection is recommended.

6.2 Environmental precautions:

Mixture must not discard in sewage system/ residual waste.

Dilute residues cautiously with water and clean it up with a paper towel.

6.3 Methods for cleaning up:

Spilled mixture can be cleaned up with a paper towel and discarded in an appropriate waste.

Afterwards clean bench with water.

SECTION 7 HANDLING AND STORAGE

7.1 Handling

Advices on safe handling:

Protective measures: wear protective clothing.

Precautions against fire and explosion:

Development of explosive atmosphere is not possible.

7.2 Storage

Technical measures and storage conditions:

Storage in well closed containers.

Packaging materials:

Acid resistant containers (e.g.: glass, polyethylene) are suitable

Containers made of metal are not suitable.

Requirements for storage rooms and vessels:

Prevent direct sunlight and heat.

Store in well aired storage rooms.

MATERIAL SAFETY DATA SHEET

in accordance with Regulation (EC) No. 1907/2006 of the European Parliament and the Council (REACH) and Commission Regulation (EU) No. 830/2015

1N HYDROCHLORIC ACID, 1N HCL

Date of issue: 3.7.2015
Supersedes date: 8.2.2010

Further information on storage conditions:

Storage temperature: 2 – 8°C
Storage stability: stable
Maximal storage period: 2 years

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Exposure limit values:

Components with occupational exposure limits requiring monitoring:

Hydrochloric Acid:

maximum allowable concentration

Europe: short term value: 15 mg/m³
long term (8 h): 8 mg/m³

USA: short term value 7 mg/m³
long term (8 h): no data available

8.2 Personal protection equipment:

Respiratory protection: not necessary
Hand protection: disposable protective gloves
Eye protection: not necessary
Body protection: lab coat, lab shoes

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

9.1 Appearance

Physical state: liquid
Colour: colourless
Odour: odourless

9.2 Important health, safety and environmental information

Safety relevant data:

	Value	Remark
pH (20 °C):	pH 2, acid	pH paper
Melting point (°C):	no data	
Boiling point (°C):	no data	
Ignition temperature (°C):	no data	
Vapour pressure (°C):	no data	
Density (g/cm ³):	1.0130 g/cm ³	
Water solubility:	very well soluble	
Viscosity, dynamic (mPa s):	no data	
Explosion limits:	-	mixture is not explosive

MATERIAL SAFETY DATA SHEET

in accordance with Regulation (EC) No. 1907/2006 of the European Parliament and the Council (REACH) and Commission Regulation (EU) No. 830/2015

1N HYDROCHLORIC ACID, 1N HCL

Date of issue: 3.7.2015
Supersedes date: 8.2.2010

SECTION 10 STABILITY AND REACTIVITY

10.1 Conditions to avoid:

Direct sunlight, high temperature

10.2 Materials to avoid:

No data available

10.3 Hazardous decomposition products:

No data available

Because of the low acid concentration in the mixture, no hazardous gases are expected.

SECTION 11 TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute effects (toxicity tests)

7647-01-0 HCl	Effect dose	Species
Acute oral toxicity	LD50 = 900 mg/kg	rabbit
Acute dermal toxicity	no data	
Acute inhalative toxicity	LC50 = 3124 mg/l	rat

Specific symptoms in animal studies:

No data available

Irritant and corrosive effects:

No data available

Sensitisation

In case of skin contact: no data

In case of inhalation: no data

Repeated dose toxicity (sub-acute, sub-chronic, chronic)

No data available

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

No CMR effects

SECTION 12 ECOLOGICAL INFORMATION

12.1 Ecotoxicity:

Aquatic toxicity (1N HCl)	Effectdose	Exposure time	Species
Acute fish toxicity	LC50=826 mg/l	96 h	Leuciscus idus
Acute daphnia toxicity	No data		
Acute algae toxicity	No data		

MATERIAL SAFETY DATA SHEET

in accordance with Regulation (EC) No. 1907/2006 of the European Parliament and the Council (REACH) and Commission Regulation (EU) No. 830/2015

1N HYDROCHLORIC ACID, 1N HCL

Date of issue: 3.7.2015
Supersedes date: 8.2.2010

12.2 Mobility:

Known or predicted distribution to environmental compartments:

In case of shifting the pH value there might be some damaging effects for aquatic organism. The mixture must not dispose in the sewage system without pretreatment.

SECTION 13 DISPOSAL CONSIDERATIONS

13.1 Appropriate disposal / Product:

All national and local laws have to be considered. This product is only allowed to be discarded by a licensed waste management company.

13.2 Waste codes / waste designations according to EWC:

Medical waste: Waste code: 97101

In other countries different conditions might be valid. All national and local laws have to be considered.

13.3 Appropriate packaging:

Rinse container with water, dispose as the product.

SECTION 14 TRANSPORT INFORMATION

Official transport designation: 1N HCl, 1N Hydrochloric acid
Because product is no dangerous good, no specific codes or labels are necessary.

SECTION 15 REGULATORY INFORMATION

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

Act No. 350/2011 Coll., to regulate chemical substances and chemical mixtures and to amend some statutes, as amended. Implemented regulations to Act No. 350/2011 Coll., as amended. The Waste Act as amended. Government Decree No. 361/2007 Coll., to regulate the conditions of occupational health and safety, as amended. Regulation of the European Parliament and the Council (EC) No. 1907/2006 (REACH). Regulation of the European Parliament and the Council (EC) No. 1272/2008 (CLP). Commission Regulation (EU) No. 830/2015.

15.2 Chemical safety assessment

Chemical safety assessment has not been carried out.

SECTION 16 OTHER INFORMATION

16.1 Indication of changes (Additions, Deletions, Revisions)

Date of issue: 3.7.2015
Supersedes date: 8.2.2010

16.2 Relevant H- and P-phrases:

H302: Harmful if swallowed
H312: Harmful in contact with skin
H315: Causes skin irritation
H319: Causes serious eye irritation
H413: May cause long lasting harmful effects to aquatic life

MATERIAL SAFETY DATA SHEET

in accordance with Regulation (EC) No. 1907/2006 of the European Parliament
and the Council (REACH) and Commission Regulation (EU) No. 830/2015

1N HYDROCHLORIC ACID, 1N HCL

Date of issue: 3.7.2015
Supersedes date: 8.2.2010

P281: Use personal protective equipment as required
P301: IF SWALLOWED: swallow water in small amounts
P302: IF ON SKIN: wash with water
P305: IF IN EYES: wash with water

P330: Flush mouth
P404: Store in a closed container
P410: Protect from sunlight

16.3 Training instructions:

Workers shall receive appropriate training to acquaint them with the recommended use, mandatory protective equipment, first aid measures and banned manners of handling the mixture.

16.4 Further information:

The safety data sheet contains data necessary for ensuring occupational health and safety and protection of the environment. The given data correspond to the current state of knowledge and experience and comply with valid legal regulations. The data cannot be considered a guarantee that the specific use of the product will be appropriate.

MATERIAL SAFETY DATA SHEET

in accordance with Regulation (EC) No. 1907/2006 of the European Parliament
and the Council (REACH) and Commission Regulation (EU) No. 830/2015

1N SODIUMHYDROXIDE SOLUTION, 1N NaOH

Date of issue: 7.7.2015
Supersedes date: 8.2.2010

SECTION 1 IDENTIFICATION OF THE PREPARATION AND OF COMPANY/UNDERTAKING

1.1 Identification of the preparation:

Identification on the label / trade name: 1N Sodiumhydroxide solution, 1N NaOH
Additional identification: NaOH 4%

1.2 Use of the preparation:

The NaOH is used to neutralize acidified samples.

1.3 Company/undertaking identification:

BioVendor - Laboratorní medicína a.s.
Karásek 1767/1
621 00 Brno
Czech Republic
Identification number: 63471507
Tel: +420 549 124 185
E-mail: info@biovendor.com

1.4 Emergency telephone number:

Toxicology information center, Na Bojišti 1, 128 21 Prague, Czech Republic, Tel: +420 224 919 293 or +420 224 915 402 (non-stop service).

SECTION 2 HAZARDS IDENTIFICATION

2.1 Hazards description:

Causes corrosion / irritation

2.2 Classification:

Classification according to Regulation 1272/2008/EC:

Hazard classes / Hazard categories / Hazard statement

3.1/ Category 4 / H302, H312

3.2/ Category 2 / H315

3.3/ Category 2 / H319

4.1/ Category 3 / H412

Signal word: Warning

Hazard pictograms:



Hazard statements: H302, H312, H315, H319, H412

Precautionary statements: P281, P301, P302, P305, P330, P404, P410

MATERIAL SAFETY DATA SHEET

in accordance with Regulation (EC) No. 1907/2006 of the European Parliament and the Council (REACH) and Commission Regulation (EU) No. 830/2015

1N SODIUMHYDROXIDE SOLUTION, 1N NaOH

Date of issue: 7.7.2015
Supersedes date: 8.2.2010

2.3 Remark:

Full text of H-phrases: see section 16.

SECTION 3 COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Preparation / mixture related information

Description: Mixture of mentioned below ingredients:

3.2 Ingredients:

Chemical name	EC-No	Index-No	CAS-No	Amount (%)	Classification according Regulation (EC) No 1272/2008 [CLP]	
					Hazard class/ Hazard categories	Hazard-statement
NaOH	215-185-5	011-002-00-6	1310-73-2	solid	3.2/ Category 1	H314
Water, dest.	231-791-2	-	7732-18-5	-	-	-

SECTION 4 FIRST AID MEASURES

4.1 General information:

Skin- and eye-contact causes corrosion.
In case of longer exposer contact a doctor, show this datasheet.

4.2 In case of skin contact:

Wash affected body parts with plenty amount of water.
In case of constant skin irritation contact a doctor.

4.3 In case of eye contact:

Wash the affected eye with water for a minimum of 10 minutes.
Contact an eye-specialist.

4.4 In case of ingestion:

Immediately wash your mouth with plenty of water.
Furthermore, swallow water in small amounts (dilution).
Don't cause vomiting. Contact a doctor.

SECTION 5 FIRE-FIGHTING MEASURES

5.1 Suitable extinguishing media:

Water, dry powder extinguisher, carbondioxid

5.2 Extinguishing media which must not be used for safety reasons:

Attention with dry powder extinguisher.
It's not appropriate for in door fire because raised foam causes lack of sight.

MATERIAL SAFETY DATA SHEET

in accordance with Regulation (EC) No. 1907/2006 of the European Parliament
and the Council (REACH) and Commission Regulation (EU) No. 830/2015

1N SODIUMHYDROXIDE SOLUTION, 1N NaOH

Date of issue: 7.7.2015
Supersedes date: 8.2.2010

5.3 Special exposure hazards arising from the substance or preparation itself, combustion products, resulting gases:

In case of fire, despite flue gas also dangerous, product specific gases might be produced. Because of the very low concentration of this mixture it is very unlikely that oxides will be produced in a hazard amount.
Further data are not known.

5.4 Special protective equipment for fire-fighters:

In case of heavy smoke a respirator shall be used.

SECTION 6 ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions:

In case of spilled mixture safety gloves have to be worn to prevent skin contact.
In case of big amounts an additional inhalation protection is recommended.

6.2 Environmental precautions:

Mixture must not discard in sewage system/ residual waste.
Dilute residues cautiously with water and clean it up with a paper towel.

6.3 Methods for cleaning up:

Spilled mixture can be cleaned up with a paper towel and discarded in an appropriate waste.
Afterwards clean bench with water.

SECTION 7 HANDLING AND STORAGE

7.1 Handling

Advices on safe handling:

Protective measures: wear protective clothing.

Precautions against fire and explosion:

Development of explosive atmosphere is not possible.

7.2 Storage

Technical measures and storage conditions:

Storage in well closed containers.

Packaging materials:

Base resistant containers (e.g.: polyethylene) are suitable
Containers made of aluminium, tin, zinc are not suitable.

Requirements for storage rooms and vessels:

Prevent direct sunlight and heat.
Store in well aired storage rooms.

MATERIAL SAFETY DATA SHEET

in accordance with Regulation (EC) No. 1907/2006 of the European Parliament
and the Council (REACH) and Commission Regulation (EU) No. 830/2015

1N SODIUMHYDROXIDE SOLUTION, 1N NaOH

Date of issue: 7.7.2015
Supersedes date: 8.2.2010

Further information on storage conditions:

Storage temperature: 2 – 8°C
Storage stability: stable
Maximal storage period: 2 years

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Exposure limit values:

Components with occupational exposure limits requiring monitoring:

Sodiumhydroxide solution:

maximum allowable concentration

Europe: short term value: 2 mg/m³
long term (8 h): 4 mg/m³

USA: short term value no data available
long term (8 h): 2 mg/m³

8.2 Personal protection equipment:

Respiratory protection: only necessary in case of fumes
Hand protection: disposable protective gloves
Eye protection: not necessary
Body protection: lab coat, lab shoes

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

9.1 Appearance

Physical state: liquid
Colour: colourless
Odour: odourless

9.2 Important health, safety and environmental information

Safety relevant data:

	Value	Remark
pH (20 °C):	pH 10, alkaline	pH paper
Melting point (°C):	no data	
Boiling point (°C):	no data	
Ignition temperature (°C):	no data	
Vapour pressure (°C):	no data	
Density (g/cm³):	1.0318 g/cm ³	
Water solubility:	very well soluble	
Viscosity, dynamic (mPa s):	no data	
Explosion limits:	-	mixture is not explosive

MATERIAL SAFETY DATA SHEET

in accordance with Regulation (EC) No. 1907/2006 of the European Parliament and the Council (REACH) and Commission Regulation (EU) No. 830/2015

1N SODIUMHYDROXIDE SOLUTION, 1N NaOH

Date of issue: 7.7.2015
Supersedes date: 8.2.2010

SECTION 10 STABILITY AND REACTIVITY

Stable under mentioned storage conditions

10.1 Conditions to avoid:

Direct sunlight, high temperature

10.2 Materials to avoid:

Metals (development of hydrogen, explosion hazard)

Acids (heat development)

Sal ammoniac (development of ammoniac)

10.3 Hazardous decomposition products:

No data available

SECTION 11 TOXICOLOGICAL INFORMATION

11.1 Acute effects (toxicity tests)

1310-73-2/ NaOH (waterfree NaOH)	Effect dose	Species
Acute oral toxicity	LD50 = 2000 mg/kg	rat
Acute dermal toxicity	no data	
Acute inhalative toxicity	no data	

Specific symptoms in animal studies:

No data available

Irritant and corrosive effects:

	Exposure time	Species	Evaluation
Primary irritation to the skin:	no data	rabbit	corrosion
Irritation to eyes	no data	rabbit	corrosion

Sensitisation

In case of skin contact: no data

In case of inhalation: no data

Repeated dose toxicity (sub-acute, sub-chronic, chronic)

No data available

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

No CMR effects

MATERIAL SAFETY DATA SHEET

in accordance with Regulation (EC) No. 1907/2006 of the European Parliament and the Council (REACH) and Commission Regulation (EU) No. 830/2015

1N SODIUMHYDROXIDE SOLUTION, 1N NaOH

Date of issue: 7.7.2015
Supersedes date: 8.2.2010

SECTION 12 ECOLOGICAL INFORMATION

12.1 Ecotoxicity:

Aquatic toxicity	Effectdose	Exposure time	Species
Acute fish toxicity	LC50=45.4 mg/l	96 h	Onchorhynchus mykiss
Acute daphnia toxicity	EC50=76 mg/l	24 h	Daphnia magna
Acute algae toxicity	No data		

12.2 Mobility:

Known or predicted distribution to environmental compartments:

In case of shifting the pH value there might be some damaging effects for aquatic organism. The mixture must not dispose in the sewage system without pretreatment.

SECTION 13 DISPOSAL CONSIDERATIONS

13.1 Appropriate disposal / Product:

All national and local laws have to be considered. This product is only allowed to be discarded by a licensed waste management company.

13.2 Waste codes / waste designations according to EWC:

Medical waste: Waste code: 97101

In other countries different conditions might be valid. All national and local laws have to be considered.

13.3 Appropriate packaging:

Rinse container with water, dispose as the product.

SECTION 14 TRANSPORT INFORMATION

Official transport designation: 1N NaOH, 1N Sodiumhydroxyde solution
Because product is no dangerous good, no specific codes or labels are necessary.

SECTION 15 REGULATORY INFORMATION

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

Act No. 350/2011 Coll., to regulate chemical substances and chemical mixtures and to amend some statutes, as amended. Implemented regulations to Act No. 350/2011 Coll., as amended. The Waste Act as amended. Government Decree No. 361/2007 Coll., to regulate the conditions of occupational health and safety, as amended. Regulation of the European Parliament and the Council (EC) No. 1907/2006 (REACH). Regulation of the European Parliament and the Council (EC) No. 1272/2008 (CLP). Commission Regulation (EU) No. 830/2015.

15.2 Chemical safety assessment

Chemical safety assessment has not been carried out.

MATERIAL SAFETY DATA SHEET

in accordance with Regulation (EC) No. 1907/2006 of the European Parliament
and the Council (REACH) and Commission Regulation (EU) No. 830/2015

1N SODIUMHYDROXIDE SOLUTION, 1N NaOH

Date of issue: 7.7.2015
Supersedes date: 8.2.2010

SECTION 16 OTHER INFORMATION

16.1 Indication of changes (Additions, Deletions, Revisions)

Date of issue: 7.7.2015
Supersedes date: 8.2.2010

16.2 Relevant H- and P-phrases:

H302: Harmful if swallowed
H312: Harmful in contact with skin
H315: Causes skin irritation
H319: Causes serious eye irritation
H412: Harmful to aquatic life with long lasting effects

P281: Use personal protective equipment as required
P301: IF SWALLOWED: swallow water in small amounts
P302: IF ON SKIN: wash with water
P305: IF IN EYES: wash with water
P330: Flush mouth
P404: Store in a closed container
P410: Protect from sunlight

16.3 Training instructions:

Workers shall receive appropriate training to acquaint them with the recommended use, mandatory protective equipment, first aid measures and banned manners of handling the mixture.

16.4 Further information:

The safety data sheet contains data necessary for ensuring occupational health and safety and protection of the environment. The given data correspond to the current state of knowledge and experience and comply with valid legal regulations. The data cannot be considered a guarantee that the specific use of the product will be appropriate.

MATERIAL SAFETY DATA SHEET

in accordance with Regulation (EC) No. 1907/2006 of the European Parliament
and the Council (REACH) and Commission Regulation (EU) No. 830/2015

Stop Solution (1M H₃PO₄)

Date of issue: 31.7.2015
Supersedes date: 11.8.2014

SECTION 1 IDENTIFICATION OF THE PREPARATION AND OF COMPANY/UNDERTAKING

1.1 Identification of the preparation:

Identification on the label / trade name: Stop Solution

Additional identification: 1M phosphoric acid, phosphoric acid 9%, 1M H₃PO₄

1.2 Use of the preparation:

The stop solution is used to terminate an enzyme reaction.

1.3 Company/undertaking identification:

BioVendor - Laboratorní medicína a.s.

Karásek 1767/1

621 00 Brno

Czech Republic

Identification number: 63471507

Tel: +420 549 124 185

E-mail: info@biovendor.com

1.4 Emergency telephone number:

Toxicology information center, Na Bojišti 1, 128 21 Prague, Czech Republic, Tel: +420 224 919 293 or +420 224 915 402 (non-stop service).

SECTION 2 HAZARDS IDENTIFICATION

2.1 Classification:

No classification in a hazard category according to (EC) No. 1272/2008 (CLP) is necessary because of the low concentration of the critical parameter phosphoric acid.

(Note: a classification has to be done from a phosphoric acid concentration \geq 10%).

2.2 Labelling according to the Regulation EC No. 1272/2008 (CLP)

Hazard components for labelling: n/a

Hazard pictogram: n/a

Signal word: n/a

Hazard statements: n/a

Precautionary statements: n/a

2.3 Further Hazards

No further hazards known

SECTION 3 COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Preparation / mixture related information

Mixture of mentioned below ingredients:

Stop Solution (1M H₃PO₄)

Date of issue: 31.7.2015
Supersedes date: 11.8.2014

3.2 Ingredients:

Chemical name	EC-No.	Index-No.	CAS-No.	Amount (%)	Classification according Regulation (EC) No. 1272/2008 (CLP)	
					Hazard class / Hazard category	Hazard statement
Phosphoric Acid	231-633-2	015-011-00-6	7664-38-2	85	3.2 / Category 1B 2.16 / Category 1	H314 H290
Water, dist.	231-791-2	-	7732-18-5	-	-	-

For full text of H- phrases see section 16.

SECTION 4 FIRST AID MEASURES

4.1 General information:

Skin- and eye-contact causes irritation.
In case of indisposition contact a doctor, show this datasheet.

4.2 In case of skin contact:

Wash affected body parts with plenty amount of water.

4.3 In case of eye contact:

Wash the affected eye with water for a minimum of 10 minutes.
In case of indisposition contact an eye-specialist.

4.4 In case of ingestion:

Immediately wash your mouth with plenty of water.
Furthermore, swallow water in small amounts (dilution)

SECTION 5 FIRE-FIGHTING MEASURES

5.1 Extinguishing media:

Suitable extinguishing media:

Water, dry powder extinguisher, carbondioxide

Extinguishing media which shall not be used for safety reasons:

Attention with dry powder extinguisher. It's not appropriate for in door fire because raised foam causes lack of sight

5.2 Special exposure hazards arising from the substance or preparation itself, combustion products, resulting gases

In case of fire, despite flue gas also dangerous, product specific gases might be produced (phosphorus oxide). Because of the very low concentration of this mixture it is very unlikely that above mentioned oxides will be produced in a hazard amount. Further data are not known.

MATERIAL SAFETY DATA SHEET

in accordance with Regulation (EC) No. 1907/2006 of the European Parliament
and the Council (REACH) and Commission Regulation (EU) No. 830/2015

Stop Solution (1M H₃PO₄)

Date of issue: 31.7.2015
Supersedes date: 11.8.2014

- 5.3 Special protective equipment for fire-fighters:**
In case of heavy smoke a respirator shall be used.

SECTION 6 ACCIDENTAL RELEASE MEASURES

- 6.1 Personal precautions:**
In case of spilled mixture safety gloves have to be worn to prevent skin contact. In case of big amounts an additional inhalation protection is recommended.
- 6.2 Environmental precautions:**
Mixture must not discard in sewage system/ residual waste. Dilute residues cautiously with water and clean it up with a paper towel.
- 6.3 Methods for cleaning up:**
Spilled mixture can be cleaned up with paper towel and discarded in an appropriate waste. Afterwards clean bench with water.

SECTION 7 HANDLING AND STORAGE

- 7.1 Handling**
Advice on safe handling:
Protective measures: wear protective clothing
Precautions against fire and explosion:
Development of explosive atmosphere is not possible
- 7.2 Storage**
Technical measures and storage conditions:
Storage in well closed containers
Packaging materials:
Acid resistant containers (e.g.: glass, polyethylen) are suitable
Requirements for storage rooms and vessels:
Prevent direct sunlight and heat. Store in a well ventilated storage room.
Further information on storage conditions:
Storage temperature: 2°C to 8°C
Storage stability: stable
Maximal storage period: 2 years

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

- 8.1 Exposure limit values:**
Components with occupational exposure limits requiring monitoring: phosphoric acid
Maximum allowable concentration:
- | | | |
|------|----------------------------|---------------------|
| EU: | Short term value (15 min): | 2 mg/m ³ |
| | Long term value (8 h): | 1 mg/m ³ |
| USA: | Short term value (15 min): | no data available |
| | Long term value (8 h): | 1 mg/m ³ |

MATERIAL SAFETY DATA SHEET

in accordance with Regulation (EC) No. 1907/2006 of the European Parliament
 and the Council (REACH) and Commission Regulation (EU) No. 830/2015

Stop Solution (1M H₃PO₄)

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8.2 Personal protection equipment:

Respiratory protection: not necessary
 Hand protection: disposable protective gloves
 Eye protection: not necessary
 Body protection: lab coat, lab shoes

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

9.1 General information

Appearance:
 Physical state: liquid
 Colour: colourless
 Odour: odourless

9.2 Safety relevant data:

	Value	Remark
pH (20°C), 9% Solution	pH 2, acid	pH-paper
Melting point (°C)	about 150°C	-
Boiling point (°C)	no data	-
Ignition temperature (°C)	no data	-
Density (20°C), 9% Solution	1,05 g/ml	-
Water solubility	Very well soluble	-
Explosion limits	-	Mixture is not explosive

SECTION 10 STABILITY AND REACTIVITY

Stable under mentioned storage conditions

10.1 Conditions to avoid:

Direct sunlight, high temperature

10.2 Materials to avoid:

Bases (cause heat development), powdery metals
 (heat development and dynamics of the reaction depends on the acid concentration)

10.3 Hazardous decomposition products:

No data available.
 Because of the low acid concentration in the mixture, no hazardous gases are expected.

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SECTION 11 TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute effects (toxicity tests)

7664-38-2/ phosphoric acid	Effect dose	Species
Acute oral toxicity	LD50 = 1530 mg/kg	rat
Acute dermal toxicity	LD50 = 2730 mg/kg	rat
Acute inhalative toxicity	LC50 = 850 mg/m ³	rat

Specific symptoms in animal studies:

No data available

Irritant and corrosive effects:

	Exposure time	Species	Evaluation
Primary irritation to the skin	24 h	rabbit	strong irritation
Irritation to eyes	No data	rabbit	strong irritation

Sensitisation

In case of skin contact: no data

In case of inhalation: no data

Repeated dose toxicity (sub-acute, sub-chronic, chronic)

No data available

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

No CMR effects

SECTION 12 ECOLOGICAL INFORMATION

12.1 Ecotoxicity:

No data

12.2 Mobility:

Known or predicted distribution to environmental compartments:

In case of shifting the pH value there might be some damaging effects for aquatic organism. The mixture must not dispose in the sewage system without pretreatment.

12.3 Persistence and decomposability

No data

SECTION 13 DISPOSAL CONSIDERATIONS

13.1 Appropriate disposal / Product:

All national and local laws have to be considered. This product is only allowed to be discarded by a licensed waste management company.

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13.2 Waste codes / waste designations according to EWC:

Medical waste: Waste code: 97101

In other countries different conditions might be valid. All national and local laws have to be considered.

13.3 Appropriate packaging:

Rinse container with water, dispose as the product.

SECTION 14 TRANSPORT INFORMATION

Official transport designation: Stop Solution, Research reagent
Because product is no dangerous good, no specific codes or labels are necessary.

SECTION 15 REGULATORY INFORMATION

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

Act No. 350/2011 Coll., to regulate chemical substances and chemical mixtures and to amend some statutes, as amended. Implemented regulations to Act No. 350/2011 Coll., as amended. The Waste Act as amended. Government Decree No. 361/2007 Coll., to regulate the conditions of occupational health and safety, as amended. Regulation of the European Parliament and the Council (EC) No. 1907/2006 (REACH). Regulation of the European Parliament and the Council (EC) No. 1272/2008 (CLP). Commission Regulation (EU) No. 830/2015.

15.2 Chemical safety assessment

Chemical safety assessment has not been carried out.

SECTION 16 OTHER INFORMATION

16.1 Indication of changes (Additions, Deletions, Revisions)

Date of issue: 31.7.2015
Supersedes date: 11.8.2014

16.2 Relevant H-phrases

(Remark: Those phrases relate to the concentrated form)

H314: Causes severe skin burns and eye damage

H290: May be corrosive to metals

16.3 Training instructions:

No data

16.4 Recommended restriction on use:

no restrictions known

16.5 Further information:

The safety data sheet contains data necessary for ensuring occupational health and safety and protection of the environment. The given data correspond to the current state of knowledge and experience and comply with valid legal regulations. The data cannot be considered a guarantee that the specific use of the product will be appropriate.