

**Safety Information**  
**Human TNF-alpha total ELISA**

Revision Date: 31.3.2016

The RAF132R Human TNF- $\alpha$  total ELISA is an enzyme-linked immunosorbent assay for the quantitative detection of human TNF- $\alpha$ .

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) Sample Diluent
- F) Assay Buffer Concentrate 20x
- G) Wash Buffer Concentrate 20x
- H) Substrate Solution
- I) Stop Solution
- J) Adhesive Films

The above components do not contain any hazardous mixture according to CLP Regulation (EC) as amended.

Safety Data Sheet for the Stop Solution (1M H<sub>3</sub>PO<sub>4</sub>) according to actual Regulations (EC/EU) is attached.

**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 H<sub>3</sub>PO<sub>4</sub>)**

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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 H<sub>3</sub>PO<sub>4</sub>

**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](mailto: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:

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### 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.

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- 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 <sup>3</sup> |
|      | Long term value (8 h):     | 1 mg/m <sup>3</sup> |
| USA: | Short term value (15 min): | no data available   |
|      | Long term value (8 h):     | 1 mg/m <sup>3</sup> |

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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:**

	<b>Value</b>	<b>Remark</b>
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 <sup>3</sup>	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)**

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**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.