

## Material Safety Data Sheet

Printing date 03/16/2010

Reviewed on 10/15/2009

**1 Identification of substance:**

- **Product details:**
- **Trade name:** Immun-Blot® GEK Citric acid
- **Catalog or product number:** 9700107
- **Application of the substance / the preparation** Laboratory chemicals
- **Manufacturer/Supplier:**  
Bio-Rad Laboratories, Life Science Group  
2000 Alfred Nobel Drive  
Hercules, California 94547 (510)741-1000
- **Information department:** Technical services, customer support.
- **Emergency information:**  
1(800)424-9300 Use only in the event of a CHEMICAL EMERGENCY involving a SPILL, LEAK, FIRE, EXPLOSION or ACCIDENT.  
510-741-1000

**2 Composition/Information on components:**

- **Chemical characterization:**
- **CAS No. Description:**  
77-92-9 citric acid
- **Identification number(s):**
- **EINECS Number:** 201-069-1

**3 Hazards identification**

- **Emergency overview:**  
Irritant to eyes.  
Irritant to respiratory system.  
Irritant to respiratory system and skin.  
Xi Irritant
- **Routes of exposure:** Inhalation
- **Information pertaining to particular dangers for man and environment**  
R 36/37 Irritating to eyes and respiratory system.
- **Classification system**  
The classification was made according to OSHA 29CFR 1910.1200 and 1910.1030, and is expanded upon from company and/or literature information.

**4 First aid measures**

- **After inhalation** Supply fresh air; consult doctor in case of complaints.
- **After skin contact** Generally the product does not irritate the skin.
- **After eye contact** Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing** Induce vomiting and call for medical help.
- **Information for doctor**
- **The following symptoms may occur:** Breathing difficulty

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**5 Fire fighting measures**

- **Suitable extinguishing agents**  
CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Protective equipment:** No special measures required.

**6 Accidental release measures**

- **Person-related safety precautions:** Not required
- **Measures for environmental protection:** No special measures required.
- **Measures for cleaning/collecting:**  
Dispose contaminated material as waste according to item 13.  
Ensure adequate ventilation.

**7 Handling and storage**

- **Handling**
- **Information for safe handling:**  
No special measures required.  
Prevent formation of dust.  
No special precautions are necessary if used correctly.
- **Information about protection against explosions and fires:** No special measures required.
- **Storage**
- **Requirements to be met by storerooms and receptacles:** According to product specification
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep receptacle tightly sealed.

**8 Exposure controls and personal protection**

- **Additional information about design of technical systems:** No further data; see item 7.
- **Components with limit values that require monitoring at the workplace:** Not required.
- **Additional information:** The lists that were valid during the creation were used as basis.
- **Personal protective equipment**
- **General protective and hygienic measures**  
Keep away from foodstuffs, beverages and feed.  
Immediately remove all soiled and contaminated clothing  
Wash hands before breaks and at the end of work.  
Avoid contact with the eyes.  
Avoid contact with the eyes and skin.
- **Breathing equipment:**  
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
- **Protection of hands:** Protective gloves.
- **Material of gloves** Synthetic gloves
- **Penetration time of glove material**  
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

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- **Eye protection:**  
Safety glasses  
Tightly sealed goggles.

**9 Physical and chemical properties:**

· **General Information**

<b>Form:</b>	Solid.
<b>Color:</b>	White
<b>Odor:</b>	Odorless

· **Change in condition**

**Melting point/Melting range:** 153°C  
**Boiling point/Boiling range:** undetermined

· **Flash point:** Not applicable

· **Flammability (solid, gaseous)** Product is not flammable.

· **Ignition temperature:** 1010°C

· **Danger of explosion:** Product does not present an explosion hazard.

· **Density at 20°C:** 1.542 g/cm<sup>3</sup>

· **Bulk density at 20°C:** 900 kg/m<sup>3</sup>

· **Solubility in / Miscibility with**

<b>Water at 20°C:</b>	600 g/l Fully miscible
<b>Organic solvents:</b>	0.0 %

**Solids content:** 100.0 %

**10 Stability and reactivity**

- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Materials to be avoided:**
- **Dangerous reactions** No dangerous reactions known
- **Dangerous products of decomposition:** No dangerous decomposition products known

**11 Toxicological information**

· **Acute toxicity:**

· **LD/LC50 values for hazardous components per OSHA criteria:**

**77-92-9 citric acid**

Oral	LD50	6730 mg/kg (rat)
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· **Primary irritant effect:**

- **on the skin:** No irritant effect.
- **on the eye:** Irritant effect.
- **Sensitization:** No sensitizing effects known.

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· **Target organs:** Eye.

**12 Ecological information:**

- **Additional ecological information:**
- **General notes:** Generally not hazardous for water.

**13 Disposal considerations**

- **Product:**
- **Recommendation**  
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.  
Hand over to hazardous waste disposers.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

**14 Transport information**

- **DOT regulations:**
- **Hazard class:** -
- **Land transport ADR/RID (cross-border)**
- **ADR/RID class:** -
- **Maritime transport IMDG:**
- **IMDG Class:** -
- **Marine pollutant:** No
- **Air transport ICAO-TI and IATA-DGR:**
- **ICAO/IATA Class:** -

**15 Regulations**

- **SARA (Superfund Amendments and Reauthorization Act of 1986 - USA)**
- **Section 302/304 (40CFR355.30 / 40CFR355.40):**  
Substance not listed.
- **Section 313 (40CFR372.65):**  
Substance is not listed.
- **TSCA (Toxic Substances Control Act):**  
Substance is listed.
- **Carcinogenic categories**
- **EPA (Environmental Protection Agency)**  
Substance is not listed.

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**· IARC (International Agency for Research on Cancer)**

Substance is not listed.

**· NTP (National Toxicology Program)**

Substance is not listed.

**· TLV (Threshold Limit Value established by ACGIH)**

Substance is not listed.

**· MAK (German Maximum Workplace Concentration)**

Substance is not listed.

**· NIOSH-Ca (National Institute for Occupational Safety and Health)**

Substance is not listed.

**· OSHA-Ca (Occupational Safety & Health Administration)**

Substance is not listed.

**· Markings according to EU guidelines:**

The product has been classified and marked in accordance with EU Directives / Ordinance on Hazardous Materials

**· Code letter and hazard designation of product:**

Xi Irritant

**· Risk phrases:**

36/37 Irritating to eyes and respiratory system.

**· Safety phrases:**

22 Do not breathe dust.

24/25 Avoid contact with skin and eyes.

35 This material and its container must be disposed of in a safe way.

**· National regulations**

**· Water hazard class:** Generally not hazardous for water.

**16 Other information:**

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

**· Department issuing MSDS:** Environmental Health and Safety.

**· Contact:**

Life Science Group, Environmental Health and Safety, 2000 Alfred Nobel Drive, Hercules, California, 94547: 1(510) 741-1000

Diagnostic Group, Environmental Health and Safety, 4000 Alfred Nobel Drive, Hercules, California, 94547: 1(510) 724-7000

**\* Data compared to the previous version altered.**