

## Material Safety Data Sheet

Printing date 04/05/2010

Reviewed on 10/21/2009

**1 Identification of substance:**

- **Product details:**
- **Trade name:** InstaGene DBK Extraction Reagent
- **Catalog or product number:** 970-2936, SL0003008AA
- **Application of the substance / the preparation** In-vitro laboratory reagent or component
- **Manufacturer/Supplier:**  
Bio-Rad Laboratories, Diagnostic Group  
4000 Alfred Nobel Drive  
Hercules, California 94547  
1(510)724-7000
- **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.

**2 Composition/Information on components:**

- **Chemical characterization**
- **Description:** Mixture of the substances listed below with non-hazardous additions.

· **Listing of dangerous and non-hazardous components:**

64-17-5	ethanol	F; R 11	50-100%
593-84-0	guanidinium thiocyanate	Xn; R 20/21/22-32	20-35%
7732-18-5	water		10-20%

- **Additional information** For the wording of the listed risk phrases refer to section 15.

**3 Hazards identification**

- **Emergency overview:**  
Flammable.  
F Highly flammable
- **Information pertaining to particular dangers for man and environment**  
The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.  
R 11 Highly flammable.  
R 32 Contact with acids liberates very toxic gas.
- **Classification system**  
The classification was made according to the latest editions of the EU-lists, and expanded upon from company and literature data.  
The classification was made according to OSHA 29CFR 1910.1200 and 1910.1030, and is expanded upon from company and/or literature information.
- **NFPA ratings (scale 0-4)**  
Health = 0  
Fire = 3  
Reactivity = 0

**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.

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- **After swallowing** Induce vomiting and call for medical help.
- **Information for doctor**
- **The following symptoms may occur:** Breathing difficulty

## 5 Fire fighting measures

- **Suitable extinguishing agents**  
CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Protective equipment:** Mount respiratory protective device.

## 6 Accidental release measures

- **Person-related safety precautions:**  
Mount respiratory protective device.  
Wear protective equipment (See section 8). Keep unprotected persons away.
- **Measures for environmental protection:**  
Prevent seepage into sewage system, workpits and cellars.  
Dilute with plenty of water.
- **Measures for cleaning/collecting:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Ensure adequate ventilation.

## 7 Handling and storage

- **Handling**
- **Information for safe handling:**  
No special measures required.  
No special precautions are necessary if used correctly.
- **Information about protection against explosions and fires:**  
Keep ignition sources away - Do not smoke.  
Protect against electrostatic charges.
- **Storage**
- **Requirements to be met by storerooms and receptacles:** Store in a cool location.
- **Information about storage in one common storage facility:** Do not store together with acids.
- **Further information about storage conditions:**  
Keep receptacle tightly sealed.  
Store in cool, dry conditions in well sealed receptacles.

## 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:**

64-17-5 ethanol

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PEL (United States)	1900 mg/m <sup>3</sup> , 1000 ppm
REL (United States)	1900 mg/m <sup>3</sup> , 1000 ppm
TLV (United States)	Short-term value: 1880 mg/m <sup>3</sup> , NIC-1000 ppm Long-term value: 1880 mg/m <sup>3</sup> , 1000 ppm NIC-A3

- **Additional information:** The lists that were valid during the creation were used as basis.
- **Personal protective equipment**
- **General protective and hygienic measures** Wash hands before breaks and at the end of work.
- **Breathing equipment:** Not required.
- **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.
- **Eye protection:**  
Safety glasses  
Tightly sealed goggles.
- **Body protection:** Protective work clothing.

**9 Physical and chemical properties:**

· **General Information**

<b>Form:</b>	liquid
<b>Color:</b>	Colorless
<b>Odor:</b>	Alcohol-like

· **Change in condition**

<b>Melting point/Melting range:</b>	undetermined
<b>Boiling point/Boiling range:</b>	78°C

· **Flash point:** ≤ 21°C

· **Ignition temperature:** 425°C

· **Auto igniting:** Product is not selfigniting.

· **Danger of explosion:** Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

· **Explosion limits:**

<b>Lower:</b>	3.5 Vol %
<b>Upper:</b>	15.0 Vol %

· **Vapor pressure at 20°C:** 59 hPa

· **Density:** Not determined

· **Solubility in / Miscibility with**

**Water:** Fully miscible

· **Solvent content:**

<b>Organic solvents:</b>	59.8 %
<b>Water:</b>	16.6 %

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**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:**

**64-17-5 ethanol**

Oral	LD50	7060 mg/kg (rat)
Inhalative	LC50/4 h	20000 mg/l (rat)

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

**12 Ecological information:**

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

**13 Disposal considerations**

- **Product:**
- **Recommendation** 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:** 3
- **Identification number:** UN1170
- **Proper shipping name (technical name):** ETHANOL
- **Label:** 3
- **Land transport ADR/RID (cross-border)**
- **ADR/RID class:** 3 Flammable liquids
- **Danger code (Kemler):** 33
- **UN-Number:** 1170
- **Packing group:** II

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· **Description of goods:** 1170 ETHANOL (ETHYL ALCOHOL)

· **Maritime transport IMDG:**

· **UN Number:** 1170

· **Marine pollutant:** No

· **Proper shipping name:** ETHANOL (ETHYL ALCOHOL)

· **Air transport ICAO-TI and IATA-DGR:**

· **ICAO/IATA Class:** 3

· **UN/ID Number:** 1170

· **Label:** 3

· **Proper shipping name:** Ethanol solution

**15 Regulations**

· **SARA (Superfund Amendments and Reauthorization Act of 1986 - USA)**

· **Section 302/304 (40CFR355.30 / 40CFR355.40):**

None of the ingredients is listed.

· **Section 313 (40CFR372.65):**

None of the ingredients is listed.

· **TSCA (Toxic Substances Control Act):**

All ingredients are listed.

· **California Proposition 65:**

· **Developmental Toxicity**

64-17-5 ethanol

· **Carcinogenic categories**

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

None of the ingredients is listed.

· **NTP (National Toxicology Program)**

None of the ingredients is listed.

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

None of the ingredients is 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:**

F Highly flammable

· **Risk phrases:**

11 Highly flammable.

32 Contact with acids liberates very toxic gas.

· **Safety phrases:**

7/9 Keep container tightly closed and in a well-ventilated place.

16 Keep away from sources of ignition - No smoking.

60 This material and its container must be disposed of as hazardous waste.

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- **National regulations**
- **Technical instructions (air):**

Class	Share in %
NK	50-100

- **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.**