



04/05/2010

Kit Components

Product code	Description
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732-6212	mDx Instagene Dry Blood Kit
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Components:

970-2936	InstaGene DBK Extraction Reagent
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970-2937	InstaGene DBK Wash Reagent
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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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Trade name: InstaGene DBK Extraction Reagent

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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**
CO₂, 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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Trade name: InstaGene DBK Extraction Reagent

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

Form:	liquid
Color:	Colorless
Odor:	Alcohol-like

· **Change in condition**

Melting point/Melting range:	undetermined
Boiling point/Boiling range:	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:**

Lower:	3.5 Vol %
Upper:	15.0 Vol %

· **Vapor pressure at 20°C:** 59 hPa

· **Density:** Not determined

· **Solubility in / Miscibility with**

Water: Fully miscible

· **Solvent content:**

Organic solvents:	59.8 %
Water:	16.6 %

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Trade name: InstaGene DBK Extraction Reagent

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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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Reviewed on 10/21/2009

Trade name: InstaGene DBK Extraction Reagent

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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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Trade name: InstaGene DBK Extraction Reagent

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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.**

Material Safety Data Sheet

Printing date 04/05/2010

Reviewed on 10/21/2009

1 Identification of substance:

- **Product details:**
- **Trade name:** InstaGene DBK Wash Reagent
- **Catalog or product number:** 970-2937, SL0003007AA
- **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:**
- **CAS No. Description:**
7732-18-5 water
- **Identification number(s):**
- **EINECS Number:** 231-791-2
- **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%
7732-18-5	water		35-50%

- **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.
- **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

Material Safety Data Sheet

Printing date 04/05/2010

Reviewed on 10/21/2009

Trade name: InstaGene DBK Wash Reagent

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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.
- **After swallowing** Induce vomiting and call for medical help.

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:** 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:** Not required.
- **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.

(Contd. on page 3)

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Material Safety Data Sheet

Printing date 04/05/2010

Reviewed on 10/21/2009

Trade name: InstaGene DBK Wash Reagent

(Contd. of page 2)

· Components with limit values that require monitoring at the workplace:

64-17-5 ethanol

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

Form:	liquid
Color:	Colorless
Odor:	Like alcohol

· Change in condition

Melting point/Melting range: undetermined

Boiling point/Boiling range: 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:

Lower: 3.5 Vol %

Upper: 15.0 Vol %

· Vapor pressure at 20°C: 59 hPa

· Density: Not determined

· Solubility in / Miscibility with

Water: Fully miscible

· Solvent content:

Organic solvents: 59.8 %

Water: 39.9 %

(Contd. on page 4)

Material Safety Data Sheet

Printing date 04/05/2010

Reviewed on 10/21/2009

Trade name: InstaGene DBK Wash Reagent

(Contd. of page 3)

Solids content: 0.3 %

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
- **Packing group:** II
- **Proper shipping name (technical name):** ETHANOL
- **Label** 3

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Material Safety Data Sheet

Printing date 04/05/2010

Reviewed on 10/21/2009

Trade name: InstaGene DBK Wash Reagent

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· **Land transport ADR/RID (cross-border)**
 · **ADR/RID class:** 3 Flammable liquids
 · **Danger code (Kemler):** 33
 · **UN-Number:** 1170
 · **Packing group:** II
 · **Label** 3
 · **Description of goods:** 1170 ETHANOL (ETHYL ALCOHOL)

· **Maritime transport IMDG:**
 · **IMDG Class:** 3
 · **UN Number:** 1170
 · **Label** 3
 · **Packing group:** II
 · **EMS Number:** F-E,S-D
 · **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
 · **Packing group:** II
 · **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

(Contd. on page 6)

Material Safety Data Sheet

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Trade name: InstaGene DBK Wash Reagent

(Contd. of page 5)

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

F Highly flammable

· **Risk phrases:**

11 Highly flammable.

· **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.

· **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:**

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