

# Proteinase K Solution

## SECTION 1. IDENTIFICATION

<b>Product Identifier</b>	Proteinase K Solution
<b>Other Means of Identification</b>	Proteinase K Solution (20 mg/ml)
<b>Other Identification</b>	12200-PKS
<b>Product Family</b>	UltraClean® BloodSpin® DNA Isolation Kit
<b>Recommended Use</b>	For laboratory research purposes only.
<b>Restrictions on Use</b>	Not applicable.
<b>Manufacturer / Supplier</b>	MO BIO Laboratories, Inc., 2746 Loker Avenue West, Carlsbad, CA, 92010, Technical Support, 800-606-6246 , www.mobio.com
<b>Emergency Phone No.</b>	MO BIO Laboratories, Inc., 800-606-6246 , M-F 8:00AM-5:00PM PST

## SECTION 2. HAZARDS IDENTIFICATION

### GHS Classification

Respiratory sensitization - Category 1; Skin sensitization - Category 1

### GHS Label Elements



Signal Word:

Danger

H317 May cause an allergic skin reaction.

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Precautionary Statement(s):

P261 Avoid breathing dust, fume, gas, mist, vapors or spray.

P272 Contaminated work clothing must not be allowed out of the workplace.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P284 In case of inadequate ventilation wear respiratory protection.

P302 + P352 IF ON SKIN: Wash with plenty of water.

P304 + P341 IF INHALED: If breathing is difficult, remove person to fresh air and keep comfortable for breathing.

P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.

P342 + P311 If experiencing respiratory symptoms: Call a POISON CENTER/doctor/

P363 Wash contaminated clothing before reuse.

P501 Dispose of contents/container in accordance with local, regional, national and international regulations.

### Other Hazards

Hazard Not Otherwise Classified (HNOC): None known.

## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture:

Chemical Name	CAS No.	%	Other Identifiers

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Glycerol	56-81-5	50-70	Glycerin
Proteinase, tritirachium album serine	39450-01-6	1-5	Endopeptidase K

## SECTION 4. FIRST-AID MEASURES

### First-aid Measures

#### Inhalation

Move to fresh air.

#### Skin Contact

Wash gently and thoroughly with lukewarm, gently flowing water and mild soap for 5 minutes. Thoroughly clean clothing, shoes and leather goods before reuse or dispose of safely.

#### Eye Contact

Immediately rinse the contaminated eye(s) with lukewarm, gently flowing water for 15-20 minutes, while holding the eyelid(s) open.

#### Ingestion

Rinse mouth with water.

#### First-aid Comments

Get medical advice/attention if you feel unwell or are concerned.

### Most Important Symptoms and Effects, Acute and Delayed

If inhaled: can irritate the nose and throat. Can cause lung injury. In rare cases, may cause asthma or an asthma-like reaction. If in eyes: may cause mild irritation. If on skin: may cause mild irritation.

### Immediate Medical Attention and Special Treatment

#### Special Instructions

Not applicable.

## SECTION 5. FIRE-FIGHTING MEASURES

### Extinguishing Media

#### Suitable Extinguishing Media

Carbon dioxide, dry chemical powder, appropriate foam, water spray or fog.

#### Unsuitable Extinguishing Media

None known.

### Specific Hazards Arising from the Chemical

Heating increases the release of toxic vapor.

In a fire, the following hazardous materials may be generated: Nitrogen oxides.

### Special Protective Equipment and Precautions for Fire-fighters

Fire-fighters may enter the area if positive pressure SCBA and full Bunker Gear is worn.

## SECTION 6. ACCIDENTAL RELEASE MEASURES

### Personal Precautions, Protective Equipment, and Emergency Procedures

Do not touch damaged containers or spilled product unless wearing appropriate protective equipment. Use the personal protective equipment recommended in Section 8 of this safety data sheet.

### Environmental Precautions

It is good practice to prevent releases into the environment.

### Methods and Materials for Containment and Cleaning Up

Review Section 7 (Handling) of this safety data sheet before proceeding with clean-up. Contain and soak up spill with absorbent that does not react with spilled product. Place used absorbent into suitable, covered, labelled containers for disposal.

## SECTION 7. HANDLING AND STORAGE

### Precautions for Safe Handling

Only use where there is adequate ventilation. Do not get in eyes, on skin or on clothing. Wear personal protective equipment to avoid direct contact with this chemical. Avoid repeated or prolonged skin contact with product or with contaminated equipment/surfaces. Avoid release to the environment.

### Conditions for Safe Storage

Store in an area that is: cool, dry, ventilated. Store in a closed container.

## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control Parameters

Chemical Name	OSHA PEL		ACGIH® TLV®		AIHA® WEEL™	
	TWA	Ceiling	TWA	STEL	8-hr TWA	TWA
Glycerol	15 mg/m <sup>3</sup>	Not established	10 mg/m <sup>3</sup>	Not established	Not established	Not established

### Appropriate Engineering Controls

General ventilation is usually adequate.

### Individual Protection Measures

#### Eye/Face Protection

Not required but it is good practice to wear safety glasses or chemical safety goggles.

#### Skin Protection

Wear chemical protective clothing e.g. gloves, aprons, boots.

#### Respiratory Protection

Not normally required if product is used as directed.

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

### Basic Physical and Chemical Properties

Appearance	Clear viscous liquid.
Odor	Odorless
Odor Threshold	Not available
pH	Not available
Melting Point/Freezing Point	Not available (melting); Not available (freezing)
Initial Boiling Point/Range	Not available
Flash Point	Not available
Evaporation Rate	Not available
Flammability (solid, gas)	Not applicable (liquid).
Upper/Lower Flammability or Explosive Limit	Not available (upper); Not available (lower)
Vapor Pressure	Not available
Vapor Density (air = 1)	Not available
Relative Density (water = 1)	Not available
Solubility	Not available in water
Partition Coefficient, n-Octanol/Water (Log Kow)	Not available
Auto-ignition Temperature	Not available
Decomposition Temperature	Not available
Viscosity	Not available (kinematic); Not available (dynamic)

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## SECTION 10. STABILITY AND REACTIVITY

### Reactivity

Not reactive under normal conditions of use.

### Chemical Stability

Normally stable.

### Possibility of Hazardous Reactions

None expected under normal conditions of storage and use.

### Conditions to Avoid

High temperatures.

### Incompatible Materials

Strong oxidizing agents (e.g. perchloric acid), strong acids (e.g. hydrochloric acid), strong bases (e.g. sodium hydroxide).

### Hazardous Decomposition Products

Toxic chemicals.

## SECTION 11. TOXICOLOGICAL INFORMATION

### Likely Routes of Exposure

Skin contact; eye contact; ingestion; inhalation.

### Acute Toxicity

Chemical Name	LD50 (oral)	LD50 (dermal)	LC50
Glycerol	12,600 mg/kg (rat)	21,900 mg/kg (rat)	> 570 mg/m <sup>3</sup> (rat) (1-hour exposure)

### Skin Corrosion/Irritation

There is limited evidence of mild irritation. (Proteinase, tritirachium album serine)

### Serious Eye Damage/Irritation

There is limited evidence of mild irritation. (Proteinase, tritirachium album serine)

### STOT (Specific Target Organ Toxicity) - Single Exposure

#### Inhalation

May cause nose and throat irritation. (Proteinase, tritirachium album serine)

#### Skin Absorption

No information was located.

#### Ingestion

No information was located.

### Aspiration Hazard

No information was located.

### STOT (Specific Target Organ Toxicity) - Repeated Exposure

No information was located.

### Respiratory and/or Skin Sensitization

May cause severe asthma-like symptoms (respiratory sensitization) based on information for closely related chemicals. (Proteinase, tritirachium album serine) may cause an allergic reaction (skin sensitization) based on limited evidence. (Proteinase, tritirachium album serine)

### Carcinogenicity

No information was located.

### Reproductive Toxicity

#### Development of Offspring

No information was located.

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### Sexual Function and Fertility

No information was located.

### Germ Cell Mutagenicity

No information was located.

### Interactive Effects

No information was located.

## SECTION 12. ECOLOGICAL INFORMATION

Environmental information was not located.

## SECTION 13. DISPOSAL CONSIDERATIONS

### Disposal Methods

Contact local environmental authorities for approved disposal or recycling methods in your jurisdiction.

## SECTION 14. TRANSPORT INFORMATION

Not regulated under US DOT Regulations. Not regulated under IATA Regulations.

## SECTION 15. REGULATORY INFORMATION

### Safety, Health and Environmental Regulations

#### USA

#### Toxic Substances Control Act (TSCA) Section 8(b)

Listed on the TSCA Inventory.

#### Additional USA Regulatory Lists

California Proposition 65: Not listed.

## SECTION 16. OTHER INFORMATION

<b>NFPA Rating</b>	<b>Health - 2</b>	<b>Flammability - 0</b>	<b>Instability - 0</b>
<b>SDS Prepared By</b>	MO BIO Laboratories, Inc.		
<b>Phone No.</b>	800-606-6246		
<b>Date of Preparation</b>	May 08, 2015		
<b>Disclaimer</b>	This Safety Data Sheet (SDS) is intended only as a guide for the appropriate handling of this product by a properly trained individual. Individuals receiving this information must make their own determination as to the appropriateness of using this product for a particular purpose, and to ensure that appropriate protective measures are in place to prevent exposure, property damage, or improper environmental release. MO BIO Laboratories, Inc. shall not be held liable for damages of any nature resulting from the above product or reliance upon this information.		

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Date of Preparation: May 08, 2015

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## Solution B1

### SECTION 1. IDENTIFICATION

<b>Product Identifier</b>	Solution B1
<b>Other Means of Identification</b>	Proprietary aqueous bind solution
<b>Other Identification</b>	12200-1
<b>Product Family</b>	UltraClean® BloodSpin® DNA Isolation Kit
<b>Recommended Use</b>	For laboratory research purposes only.
<b>Restrictions on Use</b>	Not applicable.
<b>Manufacturer / Supplier</b>	MO BIO Laboratories, Inc., 2746 Loker Avenue West, Carlsbad, CA, 92010, Technical Support, 800-606-6246 , www.mobio.com
<b>Emergency Phone No.</b>	MO BIO Laboratories, Inc., 800-606-6246 , M-F 8:00AM-5:00PM PST

### SECTION 2. HAZARDS IDENTIFICATION

#### GHS Classification

Acute toxicity (Oral) - Category 4; Skin corrosion/irritation - Category 2; Serious eye damage/eye irritation - Category 2A

#### GHS Label Elements



Signal Word:

Warning

Hazard Statement(s):

H302 Harmful if swallowed.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

Precautionary Statement(s):

P264 Wash hands and skin thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P301 + P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.

P302 + P352 IF ON SKIN: Wash with plenty of water.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P330 Rinse mouth.

P332 + P313 If skin irritation occurs: Get medical advice/attention.

P337 + P313 If eye irritation persists: Get medical advice/attention.

P501 Dispose of contents/container in accordance with local, regional, national and international regulations.

#### Other Hazards

Hazard Not Otherwise Classified (HNOC): None known.

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## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture:

Chemical Name	CAS No.	%	Other Identifiers
Proprietary chaotropic agent	CBI*	60-80	n/a
Proprietary surfactant	CBI*	10-20	n/a

### Notes

CBI = Confidential Business Information. The specific chemical identity and/or exact percentage of composition (concentration) has been withheld as a trade secret.

## SECTION 4. FIRST-AID MEASURES

### First-aid Measures

#### Inhalation

Move to fresh air.

#### Skin Contact

Wash gently and thoroughly with lukewarm, gently flowing water and mild soap for 5 minutes. Thoroughly clean clothing, shoes and leather goods before reuse or dispose of safely.

#### Eye Contact

Immediately rinse the contaminated eye(s) with lukewarm, gently flowing water for 15-20 minutes, while holding the eyelid(s) open.

#### Ingestion

Rinse mouth with water.

#### First-aid Comments

Get medical advice/attention if you feel unwell or are concerned.

### Most Important Symptoms and Effects, Acute and Delayed

If on skin: may cause mild irritation. If in eyes: may cause moderate to severe irritation.

### Immediate Medical Attention and Special Treatment

#### Special Instructions

Not applicable.

## SECTION 5. FIRE-FIGHTING MEASURES

### Extinguishing Media

#### Suitable Extinguishing Media

Carbon dioxide, dry chemical powder, appropriate foam, water spray or fog.

#### Unsuitable Extinguishing Media

None known.

### Specific Hazards Arising from the Chemical

Heating increases the release of toxic vapor.

In a fire, the following hazardous materials may be generated: Carbon oxides, Hydrogen chloride gas. Nitrogen oxides.

### Special Protective Equipment and Precautions for Fire-fighters

Fire-fighters may enter the area if positive pressure SCBA and full Bunker Gear is worn.

## SECTION 6. ACCIDENTAL RELEASE MEASURES

### Personal Precautions, Protective Equipment, and Emergency Procedures

Do not touch damaged containers or spilled product unless wearing appropriate protective equipment. Use the personal protective equipment recommended in Section 8 of this safety data sheet.

### Environmental Precautions

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It is good practice to prevent releases into the environment.

### **Methods and Materials for Containment and Cleaning Up**

Review Section 7 (Handling) of this safety data sheet before proceeding with clean-up. Contain and soak up spill with absorbent that does not react with spilled product. Place used absorbent into suitable, covered, labelled containers for disposal.

## **SECTION 7. HANDLING AND STORAGE**

### **Precautions for Safe Handling**

Only use where there is adequate ventilation. Do not get in eyes, on skin or on clothing. Wear personal protective equipment to avoid direct contact with this chemical. Avoid repeated or prolonged skin contact with product or with contaminated equipment/surfaces. Avoid release to the environment.

### **Conditions for Safe Storage**

Store in an area that is: cool, dry, ventilated. Store in a closed container.

## **SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

### **Control Parameters**

Not available.

### **Appropriate Engineering Controls**

General ventilation is usually adequate.

### **Individual Protection Measures**

#### **Eye/Face Protection**

Not required but it is good practice to wear safety glasses or chemical safety goggles.

#### **Skin Protection**

Wear chemical protective clothing e.g. gloves, aprons, boots.

#### **Respiratory Protection**

Not normally required if product is used as directed.

## **SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

### **Basic Physical and Chemical Properties**

<b>Appearance</b>	Clear viscous liquid.
<b>Odor</b>	Odorless
<b>Odor Threshold</b>	Not available
<b>pH</b>	3.5 - 6.0
<b>Melting Point/Freezing Point</b>	Not available (melting); Not available (freezing)
<b>Initial Boiling Point/Range</b>	Not available
<b>Flash Point</b>	Not available
<b>Evaporation Rate</b>	Not available
<b>Flammability (solid, gas)</b>	Not applicable (liquid).
<b>Upper/Lower Flammability or Explosive Limit</b>	Not available (upper); Not available (lower)
<b>Vapor Pressure</b>	Not available
<b>Vapor Density (air = 1)</b>	Not available
<b>Relative Density (water = 1)</b>	Not available
<b>Solubility</b>	Not available in water
<b>Partition Coefficient, n-Octanol/Water (Log Kow)</b>	Not available
<b>Auto-ignition Temperature</b>	Not available
<b>Decomposition Temperature</b>	Not available

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Viscosity

Not available (kinematic); Not available (dynamic)

## SECTION 10. STABILITY AND REACTIVITY

### Reactivity

Not reactive under normal conditions of use.

### Chemical Stability

Normally stable.

### Possibility of Hazardous Reactions

None expected under normal conditions of storage and use.

### Conditions to Avoid

Not applicable.

### Incompatible Materials

Strong oxidizing agents (e.g. perchloric acid).

### Hazardous Decomposition Products

Toxic, corrosive chemicals.

## SECTION 11. TOXICOLOGICAL INFORMATION

### Likely Routes of Exposure

Skin contact; eye contact; ingestion.

### Acute Toxicity

Chemical Name	LD50 (oral)	LD50 (dermal)	LC50
Proprietary chaotropic agent	475 mg/kg (rat)	2,000 mg/kg (rabbit)	Not available
Proprietary surfactant	1,800 mg/kg (rat)	8,000 mg/kg (rabbit)	Not available

### Skin Corrosion/Irritation

Animal tests show mild irritation. (Proprietary chaotropic agent)

### Serious Eye Damage/Irritation

Animal tests show serious eye irritation. (Proprietary chaotropic agent). (Proprietary surfactant)

### STOT (Specific Target Organ Toxicity) - Single Exposure

#### Inhalation

No information was located.

#### Skin Absorption

No information was located.

#### Ingestion

May be harmful.

### Aspiration Hazard

No information was located.

### STOT (Specific Target Organ Toxicity) - Repeated Exposure

No information was located.

### Respiratory and/or Skin Sensitization

No information was located.

### Carcinogenicity

No information was located.

### Reproductive Toxicity

#### Development of Offspring

No information was located.

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### **Sexual Function and Fertility**

No information was located.

### **Germ Cell Mutagenicity**

No information was located.

### **Interactive Effects**

No information was located.

## **SECTION 12. ECOLOGICAL INFORMATION**

Environmental information was not located.

## **SECTION 13. DISPOSAL CONSIDERATIONS**

### **Disposal Methods**

Contact local environmental authorities for approved disposal or recycling methods in your jurisdiction.

## **SECTION 14. TRANSPORT INFORMATION**

Not regulated under US DOT Regulations. Not regulated under IATA Regulations.

## **SECTION 15. REGULATORY INFORMATION**

### **Safety, Health and Environmental Regulations**

#### **USA**

#### **Toxic Substances Control Act (TSCA) Section 8(b)**

All ingredients are listed on the TSCA Inventory.

#### **Additional USA Regulatory Lists**

California Proposition 65: Not listed.

## **SECTION 16. OTHER INFORMATION**

<b>NFPA Rating</b>	<b>Health - 2</b>	<b>Flammability - 0</b>	<b>Instability - 0</b>
<b>SDS Prepared By</b>	MO BIO Laboratories, Inc.		
<b>Phone No.</b>	800-606-6246		
<b>Date of Preparation</b>	April 09, 2015		
<b>Disclaimer</b>	This Safety Data Sheet (SDS) is intended only as a guide for the appropriate handling of this product by a properly trained individual. Individuals receiving this information must make their own determination as to the appropriateness of using this product for a particular purpose, and to ensure that appropriate protective measures are in place to prevent exposure, property damage, or improper environmental release. MO BIO Laboratories, Inc. shall not be held liable for damages of any nature resulting from the above product or reliance upon this information.		

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Product Identifier: Solution B1

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## Solution B2

### SECTION 1. IDENTIFICATION

<b>Product Identifier</b>	Solution B2
<b>Other Means of Identification</b>	100% Ethanol
<b>Other Identification</b>	12200-2
<b>Product Family</b>	UltraClean® BloodSpin® DNA Isolation Kit
<b>Recommended Use</b>	For laboratory research purposes only.
<b>Restrictions on Use</b>	Not applicable.
<b>Manufacturer / Supplier</b>	MO BIO Laboratories, Inc., 2746 Loker Avenue West, Carlsbad, CA, 92010, Technical Support, 800-606-6246 , www.mobio.com
<b>Emergency Phone No.</b>	MO BIO Laboratories, Inc., 800-606-6246 , M-F 8:00AM-5:00PM PST

### SECTION 2. HAZARDS IDENTIFICATION

#### GHS Classification

Flammable liquid - Category 2

#### GHS Label Elements



Signal Word:

Danger

Hazard Statement(s):

H225 Highly flammable liquid and vapor.

Precautionary Statement(s):

P210 Keep away from heat/sparks/open flames/hot surfaces. – No smoking.

P233 Keep container tightly closed.

P240 Ground/bond container and receiving equipment.

P241 Use explosion-proof electrical, ventilating, lighting, and other equipment.

P242 Use only non-sparking tools.

P243 Take precautionary measures against static discharge.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

P370 + P378 In case of fire: Use appropriate foam to extinguish.

P403 + P235 Store in a well-ventilated place. Keep cool.

P501 Dispose of contents/container in accordance with local, regional, national and international regulations.

#### Other Hazards

Hazard Not Otherwise Classified (HNOC): None known.

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## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	%	Other Identifiers
Ethanol	64-17-5	99-100	Ethyl alcohol

## SECTION 4. FIRST-AID MEASURES

### First-aid Measures

#### Inhalation

Move to fresh air.

#### Skin Contact

Wash gently and thoroughly with lukewarm, gently flowing water and mild soap for 5 minutes. Thoroughly clean clothing, shoes and leather goods before reuse or dispose of safely.

#### Eye Contact

Immediately rinse the contaminated eye(s) with lukewarm, gently flowing water for 15-20 minutes, while holding the eyelid(s) open.

#### Ingestion

Rinse mouth with water.

#### First-aid Comments

Get medical advice/attention if you feel unwell or are concerned.

### Most Important Symptoms and Effects, Acute and Delayed

Not applicable.

### Immediate Medical Attention and Special Treatment

#### Special Instructions

Not applicable.

## SECTION 5. FIRE-FIGHTING MEASURES

### Extinguishing Media

#### Suitable Extinguishing Media

Carbon dioxide, dry chemical powder, appropriate foam, water spray or fog.

#### Unsuitable Extinguishing Media

None known.

### Specific Hazards Arising from the Chemical

Flammable liquid and vapor. Can ignite at room temperature. Releases vapor that can form explosive mixture with air.

### Special Protective Equipment and Precautions for Fire-fighters

Fire-fighters may enter the area if positive pressure SCBA and full Bunker Gear is worn.

## SECTION 6. ACCIDENTAL RELEASE MEASURES

### Personal Precautions, Protective Equipment, and Emergency Procedures

Do not touch damaged containers or spilled product unless wearing appropriate protective equipment. Use the personal protective equipment recommended in Section 8 of this safety data sheet. Eliminate all ignition sources. Use grounded, explosion-proof equipment. Increase ventilation to area or move leaking container to a well-ventilated and secure area. May accumulate in hazardous amounts in low-lying areas especially inside confined spaces, if ventilation is not sufficient.

### Environmental Precautions

It is good practice to prevent releases into the environment.

### Methods and Materials for Containment and Cleaning Up

Review Section 7 (Handling) of this safety data sheet before proceeding with clean-up. Contain and soak up spill with

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absorbent that does not react with spilled product. Place used absorbent into suitable, covered, labelled containers for disposal.

## SECTION 7. HANDLING AND STORAGE

### Precautions for Safe Handling

Only use where there is adequate ventilation. Do not get in eyes, on skin or on clothing. Wear personal protective equipment to avoid direct contact with this chemical. Avoid repeated or prolonged skin contact with product or with contaminated equipment/surfaces. Avoid release to the environment.

### Conditions for Safe Storage

Store in an area that is: cool, dry, ventilated. Store in a closed container.

## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control Parameters

Chemical Name	ACGIH® TLV®		OSHA PEL		NIOSH-RELs	
	TWA	STEL	TWA	Ceiling	TWA	STEL
Ethanol	1000 ppm	Not established	1000 ppm	Not established	1000 ppm	Not established

### Appropriate Engineering Controls

General ventilation is usually adequate.

### Individual Protection Measures

#### Eye/Face Protection

Not required but it is good practice to wear safety glasses or chemical safety goggles.

#### Skin Protection

Wear chemical protective clothing e.g. gloves, aprons, boots.

#### Respiratory Protection

Not normally required if product is used as directed.

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

### Basic Physical and Chemical Properties

Appearance	Clear liquid.
Odor	Alcoholic
Odor Threshold	Not available
pH	Not available
Melting Point/Freezing Point	-144 °C (-227 °F) (melting); Not available (freezing)
Initial Boiling Point/Range	78 - 80 °C (172 - 176 °F)
Flash Point	14 °C (57 °F)
Evaporation Rate	Not available
Flammability (solid, gas)	Not applicable (liquid).
Upper/Lower Flammability or Explosive Limit	Not available (upper); Not available (lower)
Vapor Pressure	Not available
Vapor Density (air = 1)	Not available
Relative Density (water = 1)	Not available
Solubility	Not available in water
Partition Coefficient, n-Octanol/Water (Log Kow)	Not available
Auto-ignition Temperature	363 °C (685 °F)

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**Decomposition Temperature** Not available  
**Viscosity** Not available (kinematic); Not available (dynamic)

## SECTION 10. STABILITY AND REACTIVITY

### Reactivity

Not reactive under normal conditions of use.

### Chemical Stability

Normally stable.

### Possibility of Hazardous Reactions

May cause a fire.

### Conditions to Avoid

Heat. Open flames, sparks, static discharge, heat and other ignition sources.

### Incompatible Materials

Ammonia, oxidizing agents (e.g. peroxides), alkali metals.

### Hazardous Decomposition Products

Flammable chemicals; toxic chemicals.

## SECTION 11. TOXICOLOGICAL INFORMATION

### Likely Routes of Exposure

Skin contact; eye contact; ingestion; inhalation.

### Acute Toxicity

Chemical Name	LD50 (oral)	LD50 (dermal)	LC50
Ethanol	7,060 mg/kg (rat)	Not available	20,000 ppm (rat)

### Skin Corrosion/Irritation

Not a skin irritant.

### Serious Eye Damage/Irritation

Animal tests show mild irritation.

### STOT (Specific Target Organ Toxicity) - Single Exposure

#### Inhalation

May cause nose and throat irritation.

#### Skin Absorption

No information was located.

#### Ingestion

Symptoms may include headache, nausea, dizziness, drowsiness and confusion. Depression of the central nervous system.

### Aspiration Hazard

No information was located.

### STOT (Specific Target Organ Toxicity) - Repeated Exposure

No information was located.

### Respiratory and/or Skin Sensitization

No information was located.

### Carcinogenicity

No information was located.

### Reproductive Toxicity

#### Development of Offspring

No information was located.

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### Sexual Function and Fertility

No information was located.

### Germ Cell Mutagenicity

No information was located.

### Interactive Effects

No information was located.

## SECTION 12. ECOLOGICAL INFORMATION

Environmental information was not located.

## SECTION 13. DISPOSAL CONSIDERATIONS

### Disposal Methods

Contact local environmental authorities for approved disposal or recycling methods in your jurisdiction.

## SECTION 14. TRANSPORT INFORMATION

Regulation	UN No.	Proper Shipping Name	Transport Hazard Class(es)	Packing Group
US DOT	1170	Ethanol	3	II
IATA (Air)	1170	Ethanol	3	II

## SECTION 15. REGULATORY INFORMATION

### Safety, Health and Environmental Regulations

#### USA

#### Toxic Substances Control Act (TSCA) Section 8(b)

Listed on the TSCA Inventory.

#### Additional USA Regulatory Lists

California Proposition 65: Not listed.

## SECTION 16. OTHER INFORMATION

**NFPA Rating**      **Health - 2**    **Flammability - 3**    **Instability - 0**

**SDS Prepared By**      MO BIO Laboratories, Inc.

**Phone No.**              800-606-6246

**Date of Preparation**      April 03, 2015

**Disclaimer**              This Safety Data Sheet (SDS) is intended only as a guide for the appropriate handling of this product by a properly trained individual. Individuals receiving this information must make their own determination as to the appropriateness of using this product for a particular purpose, and to ensure that appropriate protective measures are in place to prevent exposure, property damage, or improper environmental release. MO BIO Laboratories, Inc. shall not be held liable for damages of any nature resulting from the above product or reliance upon this information.

Product Identifier:      Solution B2

Date of Preparation:      April 03, 2015

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## Solution B3

### SECTION 1. IDENTIFICATION

<b>Product Identifier</b>	Solution B3
<b>Other Means of Identification</b>	Proprietary aqueous wash solution
<b>Other Identification</b>	12200-3
<b>Product Family</b>	UltraClean® BloodSpin® DNA Isolation Kit
<b>Recommended Use</b>	For laboratory research purposes only.
<b>Restrictions on Use</b>	Not applicable.
<b>Manufacturer / Supplier</b>	MO BIO Laboratories, Inc., 2746 Loker Avenue West, Carlsbad, CA, 92010, Technical Support, 800-606-6246 , www.mobio.com
<b>Emergency Phone No.</b>	MO BIO Laboratories, Inc., 800-606-6246 , M-F 8:00AM-5:00PM PST

### SECTION 2. HAZARDS IDENTIFICATION

#### GHS Classification

Flammable liquid - Category 3; Acute toxicity (Oral) - Category 4; Skin corrosion/irritation - Category 2; Serious eye damage/eye irritation - Category 2A

#### GHS Label Elements



Signal Word:

Warning

Hazard Statement(s):

H226 Flammable liquid and vapor.

H302 Harmful if swallowed.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

Precautionary Statement(s):

P210 Keep away from heat/sparks/open flames/hot surfaces. – No smoking.

P233 Keep container tightly closed.

P240 Ground/bond container and receiving equipment.

P241 Use explosion-proof electrical, ventilating, lighting, and other equipment.

P242 Use only non-sparking tools.

P243 Take precautionary measures against static discharge.

P264 Wash hands and skin thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P312 Call a POISON CENTER/doctor if you feel unwell.

P330 Rinse mouth.

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P362 + P364 Take off contaminated clothing and wash it before reuse.  
P370 + P378 In case of fire: Use appropriate foam to extinguish.  
P403 + P235 Store in a well-ventilated place. Keep cool.  
P501 Dispose of contents/container in accordance with local, regional, national and international regulations.

#### Other Hazards

Hazard Not Otherwise Classified (HNOC): None known.

### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture:

Chemical Name	CAS No.	%	Other Identifiers
Ethanol	64-17-5	40-60	Ethyl alcohol
Proprietary chaotropic agent	CBI*	20-40	n/a

#### Notes

CBI = Confidential Business Information. The specific chemical identity and/or exact percentage of composition (concentration) has been withheld as a trade secret.

### SECTION 4. FIRST-AID MEASURES

#### First-aid Measures

##### Inhalation

Move to fresh air.

##### Skin Contact

Wash gently and thoroughly with lukewarm, gently flowing water and mild soap for 5 minutes. Thoroughly clean clothing, shoes and leather goods before reuse or dispose of safely.

##### Eye Contact

Immediately rinse the contaminated eye(s) with lukewarm, gently flowing water for 15-20 minutes, while holding the eyelid(s) open.

##### Ingestion

Rinse mouth with water.

##### First-aid Comments

Get medical advice/attention if you feel unwell or are concerned.

#### Most Important Symptoms and Effects, Acute and Delayed

If on skin: may cause mild irritation. If in eyes: may cause moderate to severe irritation.

#### Immediate Medical Attention and Special Treatment

##### Special Instructions

Not applicable.

### SECTION 5. FIRE-FIGHTING MEASURES

#### Extinguishing Media

##### Suitable Extinguishing Media

Carbon dioxide, dry chemical powder, appropriate foam, water spray or fog.

##### Unsuitable Extinguishing Media

None known.

#### Specific Hazards Arising from the Chemical

Flammable liquid and vapor. Can ignite at room temperature. Releases vapor that can form explosive mixture with air. In a fire, the following hazardous materials may be generated: Carbon oxides, Hydrogen chloride gas.

#### Special Protective Equipment and Precautions for Fire-fighters

Fire-fighters may enter the area if positive pressure SCBA and full Bunker Gear is worn.

Product Identifier: Solution B3

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## SECTION 6. ACCIDENTAL RELEASE MEASURES

### Personal Precautions, Protective Equipment, and Emergency Procedures

Do not touch damaged containers or spilled product unless wearing appropriate protective equipment. Use the personal protective equipment recommended in Section 8 of this safety data sheet. Eliminate all ignition sources. Use grounded, explosion-proof equipment. Increase ventilation to area or move leaking container to a well-ventilated and secure area. May accumulate in hazardous amounts in low-lying areas especially inside confined spaces, if ventilation is not sufficient.

### Environmental Precautions

It is good practice to prevent releases into the environment.

### Methods and Materials for Containment and Cleaning Up

Review Section 7 (Handling) of this safety data sheet before proceeding with clean-up. Contain and soak up spill with absorbent that does not react with spilled product. Place used absorbent into suitable, covered, labelled containers for disposal.

## SECTION 7. HANDLING AND STORAGE

### Precautions for Safe Handling

Only use where there is adequate ventilation. Do not get in eyes, on skin or on clothing. Wear personal protective equipment to avoid direct contact with this chemical. Avoid repeated or prolonged skin contact with product or with contaminated equipment/surfaces. Avoid release to the environment.

### Conditions for Safe Storage

Store in an area that is: cool, dry, ventilated. Store in a closed container.

## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control Parameters

Chemical Name	ACGIH® TLV®		OSHA PEL		NIOSH-RELS	
	TWA	STEL	TWA	Ceiling	TWA	STEL
Ethanol	1000 ppm	Not established	1000 ppm	Not established	1000 ppm	Not established

### Appropriate Engineering Controls

General ventilation is usually adequate.

### Individual Protection Measures

#### Eye/Face Protection

Not required but it is good practice to wear safety glasses or chemical safety goggles.

#### Skin Protection

Wear chemical protective clothing e.g. gloves, aprons, boots.

#### Respiratory Protection

Not normally required if product is used as directed.

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

### Basic Physical and Chemical Properties

<b>Appearance</b>	Clear liquid.
<b>Odor</b>	Alcoholic
<b>Odor Threshold</b>	Not available
<b>pH</b>	6.5 - 7.0
<b>Melting Point/Freezing Point</b>	Not available (melting); Not available (freezing)
<b>Initial Boiling Point/Range</b>	Not available
<b>Flash Point</b>	Not available

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<b>Evaporation Rate</b>	Not available
<b>Flammability (solid, gas)</b>	Not applicable (liquid).
<b>Upper/Lower Flammability or Explosive Limit</b>	Not available (upper); Not available (lower)
<b>Vapor Pressure</b>	Not available
<b>Vapor Density (air = 1)</b>	Not available
<b>Relative Density (water = 1)</b>	Not available
<b>Solubility</b>	Not available in water
<b>Partition Coefficient, n-Octanol/Water (Log Kow)</b>	Not available
<b>Auto-ignition Temperature</b>	Not available
<b>Decomposition Temperature</b>	Not available
<b>Viscosity</b>	Not available (kinematic); Not available (dynamic)

## SECTION 10. STABILITY AND REACTIVITY

### Reactivity

Not reactive under normal conditions of use.

### Chemical Stability

Normally stable.

### Possibility of Hazardous Reactions

May cause a fire.

### Conditions to Avoid

Heat. Open flames, sparks, static discharge, heat and other ignition sources.

### Incompatible Materials

Strong oxidizing agents (e.g. perchloric acid).

### Hazardous Decomposition Products

Flammable chemicals; toxic chemicals.

## SECTION 11. TOXICOLOGICAL INFORMATION

### Likely Routes of Exposure

Skin contact; eye contact; ingestion; inhalation.

### Acute Toxicity

Chemical Name	LD50 (oral)	LD50 (dermal)	LC50
Ethanol	7,060 mg/kg (rat)	Not available	20,000 ppm (rat)
Proprietary chaotropic agent	475 mg/kg (rat)	2,000 mg/kg (rabbit)	Not available

### Skin Corrosion/Irritation

Animal tests show mild irritation. (Proprietary chaotropic agent)

### Serious Eye Damage/Irritation

Animal tests show serious eye irritation. (Proprietary chaotropic agent)

### STOT (Specific Target Organ Toxicity) - Single Exposure

#### Inhalation

May cause nose and throat irritation. (Ethanol)

#### Skin Absorption

No information was located.

#### Ingestion

Symptoms may include headache, nausea, dizziness, drowsiness and confusion. Depression of the central nervous

Product Identifier: Solution B3

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system. (Ethanol)

**Aspiration Hazard**

No information was located.

**STOT (Specific Target Organ Toxicity) - Repeated Exposure**

No information was located.

**Respiratory and/or Skin Sensitization**

No information was located.

**Carcinogenicity**

No information was located.

**Reproductive Toxicity**

**Development of Offspring**

No information was located.

**Sexual Function and Fertility**

No information was located.

**Germ Cell Mutagenicity**

No information was located.

**Interactive Effects**

No information was located.

**SECTION 12. ECOLOGICAL INFORMATION**

Environmental information was not located.

**SECTION 13. DISPOSAL CONSIDERATIONS**

**Disposal Methods**

Contact local environmental authorities for approved disposal or recycling methods in your jurisdiction.

**SECTION 14. TRANSPORT INFORMATION**

Regulation	UN No.	Proper Shipping Name	Transport Hazard Class(es)	Packing Group
US DOT	1170	Ethanol solution	3	III
IATA (Air)	1170	Ethanol solution	3	III

**SECTION 15. REGULATORY INFORMATION**

**Safety, Health and Environmental Regulations**

**USA**

**Toxic Substances Control Act (TSCA) Section 8(b)**

Listed on the TSCA Inventory.

**Additional USA Regulatory Lists**

California Proposition 65: Not listed.

**SECTION 16. OTHER INFORMATION**

**NFPA Rating**      **Health - 2**      **Flammability - 3**      **Instability - 0**

**SDS Prepared By**      MO BIO Laboratories, Inc.

**Phone No.**      800-606-6246

**Date of Preparation**      April 09, 2015

Product Identifier:      Solution B3

Date of Preparation:      April 09, 2015

**Revision Indicators** The following SDS content was changed on November 16, 2015:  
SECTION 2. HAZARDS IDENTIFICATION; GHS Classification.  
SECTION 14. TRANSPORT INFORMATION; Shipping Information.

**Disclaimer** This Safety Data Sheet (SDS) is intended only as a guide for the appropriate handling of this product by a properly trained individual. Individuals receiving this information must make their own determination as to the appropriateness of using this product for a particular purpose, and to ensure that appropriate protective measures are in place to prevent exposure, property damage, or improper environmental release. MO BIO Laboratories, Inc. shall not be held liable for damages of any nature resulting from the above product or reliance upon this information.

## Solution B4

### SECTION 1. IDENTIFICATION

<b>Product Identifier</b>	Solution B4
<b>Other Means of Identification</b>	Aqueous solution of ethyl alcohol
<b>Other Identification</b>	12200-4
<b>Product Family</b>	UltraClean® BloodSpin® DNA Isolation Kit
<b>Recommended Use</b>	For laboratory research purposes only.
<b>Restrictions on Use</b>	Not applicable.
<b>Manufacturer / Supplier</b>	MO BIO Laboratories, Inc., 2746 Loker Avenue West, Carlsbad, CA, 92010, Technical Support, 800-606-6246 , www.mobio.com
<b>Emergency Phone No.</b>	MO BIO Laboratories, Inc., 800-606-6246 , M-F 8:00AM-5:00PM PST

### SECTION 2. HAZARDS IDENTIFICATION

#### GHS Classification

Flammable liquid - Category 3

#### GHS Label Elements



Signal Word:

Warning

Hazard Statement(s):

H226 Flammable liquid and vapor.

Precautionary Statement(s):

P210 Keep away from heat, sparks, open flames, and hot surfaces. – No smoking.

P233 Keep container tightly closed.

P240 Ground/bond container and receiving equipment.

P241 Use explosion-proof electrical, ventilating, lighting, and other equipment.

P242 Use only non-sparking tools.

P243 Take precautionary measures against static discharge.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

P370 + P378 In case of fire: Use appropriate foam to extinguish.

P403 + P235 Store in a well-ventilated place. Keep cool.

P501 Dispose of contents/container in accordance with local, regional, national and international regulations.

#### Other Hazards

Hazard Not Otherwise Classified (HNOC): None known.

### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Product Identifier: Solution B4

Date of Preparation: April 22, 2015

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Mixture:

Chemical Name	CAS No.	%	Other Identifiers
Ethanol	64-17-5	30-60	Ethyl alcohol

## SECTION 4. FIRST-AID MEASURES

### First-aid Measures

#### Inhalation

Move to fresh air.

#### Skin Contact

Wash gently and thoroughly with lukewarm, gently flowing water and mild soap for 5 minutes. Thoroughly clean clothing, shoes and leather goods before reuse or dispose of safely.

#### Eye Contact

Immediately rinse the contaminated eye(s) with lukewarm, gently flowing water for 15-20 minutes, while holding the eyelid(s) open.

#### Ingestion

Rinse mouth with water.

#### First-aid Comments

Get medical advice/attention if you feel unwell or are concerned.

### Most Important Symptoms and Effects, Acute and Delayed

Not applicable.

### Immediate Medical Attention and Special Treatment

#### Special Instructions

Not applicable.

## SECTION 5. FIRE-FIGHTING MEASURES

### Extinguishing Media

#### Suitable Extinguishing Media

Carbon dioxide, dry chemical powder, appropriate foam, water spray or fog.

#### Unsuitable Extinguishing Media

None known.

### Specific Hazards Arising from the Chemical

Flammable liquid and vapor. Can ignite at room temperature. Releases vapor that can form explosive mixture with air. Heating increases the release of toxic vapor.

In a fire, the following hazardous materials may be generated: flammable chemicals.

### Special Protective Equipment and Precautions for Fire-fighters

Fire-fighters may enter the area if positive pressure SCBA and full Bunker Gear is worn.

## SECTION 6. ACCIDENTAL RELEASE MEASURES

### Personal Precautions, Protective Equipment, and Emergency Procedures

Do not touch damaged containers or spilled product unless wearing appropriate protective equipment. Use the personal protective equipment recommended in Section 8 of this safety data sheet. Eliminate all ignition sources. Use grounded, explosion-proof equipment. Increase ventilation to area or move leaking container to a well-ventilated and secure area. May accumulate in hazardous amounts in low-lying areas especially inside confined spaces, if ventilation is not sufficient.

### Environmental Precautions

It is good practice to prevent releases into the environment.

### Methods and Materials for Containment and Cleaning Up

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Review Section 7 (Handling) of this safety data sheet before proceeding with clean-up. Contain and soak up spill with absorbent that does not react with spilled product. Place used absorbent into suitable, covered, labelled containers for disposal.

## SECTION 7. HANDLING AND STORAGE

### Precautions for Safe Handling

Only use where there is adequate ventilation. Do not get in eyes, on skin or on clothing. Wear personal protective equipment to avoid direct contact with this chemical. Avoid repeated or prolonged skin contact with product or with contaminated equipment/surfaces. Avoid release to the environment.

### Conditions for Safe Storage

Store in an area that is: cool, dry, ventilated. Store in a closed container.

## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control Parameters

Chemical Name	ACGIH® TLV®		OSHA PEL		NIOSH-RELS	
	TWA	STEL	TWA	Ceiling	TWA	STEL
Ethanol	1000 ppm	Not established	1000 ppm	Not established	1000 ppm	Not established

### Appropriate Engineering Controls

General ventilation is usually adequate.

### Individual Protection Measures

#### Eye/Face Protection

Not required but it is good practice to wear safety glasses or chemical safety goggles.

#### Skin Protection

Wear chemical protective clothing e.g. gloves, aprons, boots.

#### Respiratory Protection

Not normally required if product is used as directed.

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

### Basic Physical and Chemical Properties

Appearance	Clear liquid.
Odor	Alcoholic
Odor Threshold	Not available
pH	7.0 - 8.0
Melting Point/Freezing Point	Not available (melting); Not available (freezing)
Initial Boiling Point/Range	Not available
Flash Point	Not available
Evaporation Rate	Not available
Flammability (solid, gas)	Not applicable (liquid).
Upper/Lower Flammability or Explosive Limit	Not available (upper); Not available (lower)
Vapor Pressure	Not available
Vapor Density (air = 1)	Not available
Relative Density (water = 1)	Not available
Solubility	Not available in water
Partition Coefficient, n-Octanol/Water (Log Kow)	Not available
Auto-ignition Temperature	Not available

Product Identifier: Solution B4

Date of Preparation: April 22, 2015

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**Decomposition Temperature** Not available  
**Viscosity** Not available (kinematic); Not available (dynamic)

## SECTION 10. STABILITY AND REACTIVITY

### Reactivity

Not reactive under normal conditions of use.

### Chemical Stability

Normally stable.

### Possibility of Hazardous Reactions

May cause a fire.

### Conditions to Avoid

Heat. Open flames, sparks, static discharge, heat and other ignition sources.

### Incompatible Materials

Strong oxidizing agents (e.g. perchloric acid).

### Hazardous Decomposition Products

Flammable chemicals; toxic chemicals.

## SECTION 11. TOXICOLOGICAL INFORMATION

### Likely Routes of Exposure

Skin contact; eye contact; ingestion; inhalation.

### Acute Toxicity

Chemical Name	LD50 (oral)	LD50 (dermal)	LC50
Ethanol	7,060 mg/kg (rat)	Not available	20,000 ppm (rat)

### Skin Corrosion/Irritation

Not a skin irritant.

### Serious Eye Damage/Irritation

Animal tests show mild irritation.

### STOT (Specific Target Organ Toxicity) - Single Exposure

#### Inhalation

May cause nose and throat irritation.

#### Skin Absorption

No information was located.

#### Ingestion

Symptoms may include headache, nausea, dizziness, drowsiness and confusion. Depression of the central nervous system.

### Aspiration Hazard

No information was located.

### STOT (Specific Target Organ Toxicity) - Repeated Exposure

No information was located.

### Respiratory and/or Skin Sensitization

No information was located.

### Carcinogenicity

No information was located.

### Reproductive Toxicity

#### Development of Offspring

No information was located.

Product Identifier: Solution B4  
Date of Preparation: April 22, 2015

### Sexual Function and Fertility

No information was located.

### Germ Cell Mutagenicity

No information was located.

### Interactive Effects

No information was located.

## SECTION 12. ECOLOGICAL INFORMATION

Environmental information was not located.

## SECTION 13. DISPOSAL CONSIDERATIONS

### Disposal Methods

Contact local environmental authorities for approved disposal or recycling methods in your jurisdiction.

## SECTION 14. TRANSPORT INFORMATION

Regulation	UN No.	Proper Shipping Name	Transport Hazard Class(es)	Packing Group
US DOT	1170	Ethanol solution	3	III
IATA (Air)	1170	Ethanol solution	3	III

## SECTION 15. REGULATORY INFORMATION

### Safety, Health and Environmental Regulations

#### USA

#### Toxic Substances Control Act (TSCA) Section 8(b)

Listed on the TSCA Inventory.

#### Additional USA Regulatory Lists

California Proposition 65: Not listed.

## SECTION 16. OTHER INFORMATION

**NFPA Rating**      **Health - 1**    **Flammability - 3**    **Instability - 0**

**SDS Prepared By**      MO BIO Laboratories, Inc.

**Phone No.**              800-606-6246

**Date of Preparation**      April 22, 2015

**Revision Indicators**      The following SDS content was changed on November 16, 2015:  
SECTION 14. TRANSPORT INFORMATION; Shipping Information.

**Disclaimer**              This Safety Data Sheet (SDS) is intended only as a guide for the appropriate handling of this product by a properly trained individual. Individuals receiving this information must make their own determination as to the appropriateness of using this product for a particular purpose, and to ensure that appropriate protective measures are in place to prevent exposure, property damage, or improper environmental release. MO BIO Laboratories, Inc. shall not be held liable for damages of any nature resulting from the above product or reliance upon this information.

Product Identifier:      Solution B4

Date of Preparation:      April 22, 2015

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## Solution B5

### SECTION 1. IDENTIFICATION

<b>Product Identifier</b>	Solution B5
<b>Other Means of Identification</b>	DNA hydration buffer (10mM tris and 1mM EDTA)
<b>Other Identification</b>	12200-5
<b>Product Family</b>	UltraClean® BloodSpin® DNA Isolation Kit
<b>Recommended Use</b>	For laboratory research purposes only.
<b>Restrictions on Use</b>	Not applicable.
<b>Manufacturer / Supplier</b>	MO BIO Laboratories, Inc., 2746 Loker Avenue West, Carlsbad, CA, 92010, Technical Support, 800-606-6246 , www.mobio.com
<b>Emergency Phone No.</b>	MO BIO Laboratories, Inc., 800-606-6246 , M-F 8:00AM-5:00PM PST

### SECTION 2. HAZARDS IDENTIFICATION

#### GHS Classification

Not classified under any GHS hazard classes.

#### GHS Label Elements

Not applicable

#### Other Hazards

Hazard Not Otherwise Classified (HNOC): None known.

### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture:

Chemical Name	CAS No.	%	Other Identifiers
2-Amino-2-(hydroxymethyl)-1,3-propanediol	77-86-1	0.1	Tris base
Acetic acid, (ethylenedinitrilo)tetra-, disodium salt, dihydrate	6381-92-6	0.04	EDTA

### SECTION 4. FIRST-AID MEASURES

#### First-aid Measures

##### Inhalation

Move to fresh air.

##### Skin Contact

Rinse with lukewarm, gently flowing water for 5 minutes.

##### Eye Contact

Rinse the contaminated eye(s) with lukewarm, gently flowing water for 5 minutes, while holding the eyelid(s) open.

##### Ingestion

Rinse mouth with water.

##### First-aid Comments

Get medical advice/attention if you feel unwell or are concerned.

#### **Most Important Symptoms and Effects, Acute and Delayed**

Not applicable.

#### **Immediate Medical Attention and Special Treatment**

##### **Special Instructions**

Not applicable.

## **SECTION 5. FIRE-FIGHTING MEASURES**

### **Extinguishing Media**

#### **Suitable Extinguishing Media**

Carbon dioxide, dry chemical powder, appropriate foam, water spray or fog.

#### **Unsuitable Extinguishing Media**

None known.

### **Specific Hazards Arising from the Chemical**

Heating increases the release of toxic vapor.

In a fire, the following hazardous materials may be generated: Nitrogen oxides.

### **Special Protective Equipment and Precautions for Fire-fighters**

Fire-fighters may enter the area if positive pressure SCBA and full Bunker Gear is worn.

## **SECTION 6. ACCIDENTAL RELEASE MEASURES**

### **Personal Precautions, Protective Equipment, and Emergency Procedures**

Use the personal protective equipment recommended in Section 8 of this safety data sheet.

### **Environmental Precautions**

It is good practice to prevent releases into the environment.

### **Methods and Materials for Containment and Cleaning Up**

Contain and soak up spill with absorbent that does not react with spilled product. Place used absorbent into suitable, covered, labelled containers for disposal.

## **SECTION 7. HANDLING AND STORAGE**

### **Precautions for Safe Handling**

It is good practice to: avoid breathing product; avoid skin and eye contact and wash hands after handling.

### **Conditions for Safe Storage**

Store in an area that is: cool, dry, ventilated. Store in a closed container.

## **SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

### **Control Parameters**

Not available.

### **Appropriate Engineering Controls**

General ventilation is usually adequate.

### **Individual Protection Measures**

#### **Eye/Face Protection**

Not required but it is good practice to wear safety glasses or chemical safety goggles.

#### **Skin Protection**

Wear chemical protective clothing e.g. gloves, aprons, boots.

#### **Respiratory Protection**

Not normally required if product is used as directed.

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

### Basic Physical and Chemical Properties

<b>Appearance</b>	Clear liquid.
<b>Odor</b>	Odorless
<b>Odor Threshold</b>	Not available
<b>pH</b>	~ 8.5
<b>Melting Point/Freezing Point</b>	Not available (melting); Not available (freezing)
<b>Initial Boiling Point/Range</b>	Not available
<b>Flash Point</b>	Not available
<b>Evaporation Rate</b>	Not available
<b>Flammability (solid, gas)</b>	Not applicable (liquid).
<b>Upper/Lower Flammability or Explosive Limit</b>	Not available (upper); Not available (lower)
<b>Vapor Pressure</b>	Not available
<b>Vapor Density (air = 1)</b>	Not available
<b>Relative Density (water = 1)</b>	Not available
<b>Solubility</b>	Not available in water
<b>Partition Coefficient, n-Octanol/Water (Log Kow)</b>	Not available
<b>Auto-ignition Temperature</b>	Not available
<b>Decomposition Temperature</b>	Not available
<b>Viscosity</b>	Not available (kinematic); Not available (dynamic)

## SECTION 10. STABILITY AND REACTIVITY

### Reactivity

Not reactive under normal conditions of use.

### Chemical Stability

Normally stable.

### Possibility of Hazardous Reactions

None expected under normal conditions of storage and use.

### Conditions to Avoid

Not applicable.

### Incompatible Materials

Strong oxidizing agents (e.g. perchloric acid).

### Hazardous Decomposition Products

Irritating chemicals.

## SECTION 11. TOXICOLOGICAL INFORMATION

### Likely Routes of Exposure

Skin contact; eye contact; ingestion.

### Acute Toxicity

LC50: No information was located.

LD50 (oral): No information was located.

LD50 (dermal): No information was located.

### Skin Corrosion/Irritation

No information was located.

Product Identifier: Solution B5  
Date of Preparation: April 08, 2015

**Serious Eye Damage/Irritation**

No information was located.

**STOT (Specific Target Organ Toxicity) - Single Exposure****Inhalation**

No information was located.

**Skin Absorption**

No information was located.

**Ingestion**

No information was located.

**Aspiration Hazard**

No information was located.

**STOT (Specific Target Organ Toxicity) - Repeated Exposure**

No information was located.

**Respiratory and/or Skin Sensitization**

No information was located.

**Carcinogenicity**

No information was located.

**Reproductive Toxicity****Development of Offspring**

No information was located.

**Sexual Function and Fertility**

No information was located.

**Germ Cell Mutagenicity**

No information was located.

**SECTION 12. ECOLOGICAL INFORMATION**

Environmental information was not located.

**SECTION 13. DISPOSAL CONSIDERATIONS****Disposal Methods**

Contact local environmental authorities for approved disposal or recycling methods in your jurisdiction.

**SECTION 14. TRANSPORT INFORMATION**

Not regulated under US DOT Regulations. Not regulated under IATA Regulations.

**SECTION 15. REGULATORY INFORMATION****Safety, Health and Environmental Regulations****USA****Toxic Substances Control Act (TSCA) Section 8(b)**

Listed on the TSCA Inventory. (Tris base).

**Additional USA Regulatory Lists**

California Proposition 65: Not listed.

**SECTION 16. OTHER INFORMATION**

**NFPA Rating**      **Health - 0**      **Flammability - 0**      **Instability - 0**

**SDS Prepared By**      MO BIO Laboratories, Inc.

Product Identifier:      Solution B5

Date of Preparation:      April 08, 2015

**Phone No.** 800-606-6246

**Date of Preparation** April 08, 2015

**Disclaimer** This Safety Data Sheet (SDS) is intended only as a guide for the appropriate handling of this product by a properly trained individual. Individuals receiving this information must make their own determination as to the appropriateness of using this product for a particular purpose, and to ensure that appropriate protective measures are in place to prevent exposure, property damage, or improper environmental release. MO BIO Laboratories, Inc. shall not be held liable for damages of any nature resulting from the above product or reliance upon this information.

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Product Identifier: Solution B5

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