GE Healthcare

Material Safety Data Sheet

United States
English

Section 1. Chemical product and company identification

Product name **Lysis solution; part of 'illustra™ blood genomicPrep Mini Spin (50 pack)'**

Catalogue Number 28904264

Component Number 406173

Material uses Industrial applications: Analytical reagent. Research.
Validation date 29 August 2006
Print date 29 August 2006

Supplier
GE Healthcare Bio-Sciences AB
SE-751 84 Uppsala
Sweden
+46 (0)18 612 0000

In case of emergency			
	US	ChemTrec (US)	1-800-424-9300
	Canada	ChemTrec (US)	1-703-527-3887

2. Hazards identification

Physical state Liquid.
Odor Faint odor. Irritant.
OSHA/HCS status This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Emergency overview Warning!

CAUSES SEVERE EYE IRRITATION.
CAUSES SKIN IRRITATION.
MAY CAUSE ALLERGIC SKIN REACTION.
MAY BE HARMFUL IF SWALLOWED.
CONTAINS MATERIAL WHICH MAY CAUSE DAMAGE TO THE FOLLOWING ORGANS: CENTRAL NERVOUS SYSTEM, EYE, LENS OR CORNEA.

Do not ingest. Avoid contact with skin and clothing. Wash thoroughly after handling.

Routes of entry Dermal contact. Eye contact.

Potential acute health effects

Eyes Severely irritating to eyes.
Skin Irritating to skin. May cause sensitization by skin contact.
Inhalation No known significant effects or critical hazards.
Ingestion Harmful if swallowed.

Potential chronic health effects
CARCINOGENIC EFFECTS: Not available.
MUTAGENIC EFFECTS: Not available.
TERATOGENIC EFFECTS: Not available.

Medical conditions aggravated by over-exposure Repeated skin exposure can produce local skin destruction or dermatitis. Repeated or prolonged contact with spray or mist may produce chronic eye irritation and severe skin irritation. Repeated or prolonged exposure to the substance can produce target organs damage.

See toxicological information (section 11)

3. Composition/information on ingredients

Name	CAS number	% by weight	Exposure limits
Guanidinium chloride	50-01-1	66.87	
Triton X-100	9002-93-1	4	

Section 4. First aid measures

Eye contact Get medical attention immediately. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Chemical burns must be treated promptly by a physician.

Skin contact Flush contaminated skin with plenty of water. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing or wear gloves. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Inhalation Move exposed person to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if symptoms occur. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Ingestion Wash out mouth with water. Remove dentures if any. Move exposed person to fresh air. Keep person warm and at rest. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Protection of first-aiders No action shall be taken involving any personal risk or without suitable training.

Section 5. Fire fighting measures

Flammability of the product Non-flammable.

Extinguishing media

Suitable Use an extinguishing agent suitable for the surrounding fire.

Not suitable None known.

Special exposure hazards

No specific hazard.

Special protective equipment for fire-fighters Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions Immediately contact emergency personnel. Keep unnecessary personnel away. Use suitable protective equipment.

Environmental precautions Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Methods for cleaning up If emergency personnel are unavailable, contain spilled material. For small spills, add absorbent (soil may be used in the absence of other suitable materials), scoop up material and place in a sealable, liquid-proof container for disposal. For large spills, dike spilled material or otherwise contain material to ensure runoff does not reach a waterway. Place spilled material in an appropriate container for disposal.

Section 7. Handling and storage

Handling Do not ingest. Avoid contact with eyes, skin and clothing. Wash thoroughly after handling.

Storage Keep container tightly closed. Keep container in a cool, well-ventilated area.

Section 8. Exposure controls, personal protection

Engineering measures No special ventilation requirements. Good general ventilation should be sufficient to control airborne levels. If this product contains ingredients with exposure limits, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.

Personal protection

Eyes Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts.

Skin Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Hands Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Hygiene measures	Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Consult local authorities for acceptable exposure limits.

Section 9. Physical and chemical properties

Physical state	Liquid.
Color	Colorless.
Odor	Faint odor. Irritant.
pH	7 (Conc. (% w/w): 100) [Neutral.]
Boiling/condensation point	The lowest known value is 100°C (212°F) (water). Weighted average: 104.04°C (219.3°F)
Melting/freezing point	May start to solidify at 0°C (32°F) based on data for: water. Weighted average: -0.59°C (30.9°F)
Critical temperature	The lowest known value is 374.3°C (705.7°F) (water).
Relative density	The only known value is 1.11 (Water = 1) (Tween 20).
Vapor pressure	The highest known value is 3.2 kPa (23.8 mm Hg) (at 20°C) (water). Weighted average: 2.3 kPa (17.25 mm Hg) (at 20°C)
Vapor density	The highest known value is 21 (Air = 1) (Triton X-100).
Evaporation rate	0.36 (water) compared with Butyl acetate.
Ionicity (in water)	Non-ionic.
Dispersibility properties	See solubility in water, methanol, acetone.
Solubility	Easily soluble in cold water, hot water, methanol, acetone.

Section 10. Stability and reactivity

Stability and reactivity	The product is stable.
Incompatibility with various substances	Reactive or incompatible with the following materials: oxidizing materials and reducing materials. Slightly reactive or incompatible with the following materials: moisture. Non-reactive or compatible with the following materials: combustible materials, organic materials, metals, acids and alkalis.
Hazardous decomposition products	These products are halogenated compounds, hydrogen chloride.
Hazardous polymerization	Will not occur.
Conditions of reactivity	Non-flammable in the presence of the following materials or conditions: open flames, sparks and static discharge, heat, shocks and mechanical impacts, oxidizing materials, reducing materials, combustible materials, organic materials, metals, acids, alkalis and moisture. Non-explosive in the presence of the following materials or conditions: open flames, sparks and static discharge, heat, shocks and mechanical impacts, oxidizing materials, reducing materials, combustible materials, organic materials, metals, acids, alkalis and moisture.

Section 11. Toxicological information

Toxicity data

Product/ingredient name	Test	Result	Route	Species
Guanidinium chloride	LD50	475 mg/kg	Oral	Rat
	LD50	571 mg/kg	Oral	Mouse
	LD50	>2000 mg/kg	Dermal	Rabbit
	LDLo	300 mg/kg	Oral	Mammal
	LC50	500 mg/m^3 (24 hour/hours)	Inhalation	Rabbit
Triton X-100	LD50	1800 mg/kg	Oral	Rat
	LD50	1900 mg/kg	Oral	Rat
	LD50	3800 mg/kg	Oral	Rat
	LD50	>3000 mg/kg	Dermal	Rabbit

Chronic effects on humans	Contains material which may cause damage to the following organs: central nervous system (CNS), eye, lens or cornea.
Other toxic effects on humans	Hazardous in case of skin contact (irritant), of eye contact (irritant).

Specific effects

Carcinogenic effects	No known significant effects or critical hazards.
Mutagenic effects	No known significant effects or critical hazards.
Teratogenicity / Reproduction toxicity	No known significant effects or critical hazards.
Target organs	Contains material which may cause damage to the following organs: central nervous system (CNS), eye, lens or cornea.

Sensitization

Ingestion	No known significant effects or critical hazards.
Inhalation	No known significant effects or critical hazards.
Eyes	Severely irritating to eyes.
Skin	Irritating to skin. May cause sensitization by skin contact.

Section 12. Ecological information

Ecotoxicity data

Product/ingredient name	Species	Period	Result
Guanidinium chloride	L. idus (LC50)	48 hour/hours	1759 mg/l
Triton X-100	Pimephales promelas (LC50)	96 hour/hours	4.5 mg/l
	Pimephales promelas (LC50)	96 hour/hours	5.38 mg/l
	Pimephales promelas (LC50)	96 hour/hours	6 mg/l
	Lepomis macrochirus (LC50)	96 hour/hours	>10 mg/l
	Lepomis macrochirus (LC50)	96 hour/hours	12 mg/l
	Lepomis macrochirus (LC50)	96 hour/hours	531 mg/l

Environmental precautions	No known significant effects or critical hazards.
Products of degradation	These products are carbon oxides (CO, CO_2) and water, nitrogen oxides (NO, NO_2 etc.), halogenated compounds.
Toxicity of the products of biodegradation	The products of degradation are as toxic as the product itself.

Section 13. Disposal considerations

Waste disposal The generation of waste should be avoided or minimized wherever possible. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.

Consult your local or regional authorities.

Section 14. Transport information

International transport regulations

Not classified.

Section 15. Regulatory information

HCS Classification

Irritating material
Sensitizing material
Target organ effects

U.S. Federal regulations

TSCA 8(a) PAIR: Triton X-100
TSCA 8(b) inventory: Triton X-100; water; Tween 20; Guanidinium chloride; ethylenediamine tetraacetic acid; Tris(hydroxymethyl)aminomethane

SARA 302/304/311/312 extremely hazardous substances: No products were found.
SARA 302/304 emergency planning and notification: Guanidinium chloride
SARA 302/304/311/312 hazardous chemicals: Triton X-100
SARA 311/312 MSDS distribution - chemical inventory - hazard identification: Triton X-100: Immediate (acute) health hazard, Delayed (chronic) health hazard

Clean Water Act (CWA) 307: No products were found.

Clean Water Act (CWA) 311: ethylenediamine tetraacetic acid

Clean Air Act (CAA) 112 accidental release prevention: No products were found.

Clean Air Act (CAA) 112 regulated flammable substances: No products were found.

Clean Air Act (CAA) 112 regulated toxic substances: No products were found.

State regulations

Pennsylvania RTK: ethylenediamine tetraacetic acid: (environmental hazard, generic environmental hazard)
Florida: Guanidinium chloride
Minnesota: Guanidinium chloride
Massachusetts RTK: ethylenediamine tetraacetic acid
New Jersey: Triton X-100; ethylenediamine tetraacetic acid

EU regulations

Hazard symbol/symbols

Risk phrases

R22- Harmful if swallowed.
R36/38- Irritating to eyes and skin.

International regulations

International lists

Australia (NICNAS): Triton X-100; water; Tween 20; Guanidinium chloride; ethylenediamine tetraacetic acid; Tris(hydroxymethyl)aminomethane

China: Triton X-100; water; Tween 20; Guanidinium chloride; ethylenediamine tetraacetic acid; Tris (hydroxymethyl)aminomethane

Germany water class: Triton X-100; Tween 20; Guanidinium chloride; ethylenediamine tetraacetic acid; Tris (hydroxymethyl)aminomethane

Japan (METI): water; Tween 20; Guanidinium chloride; ethylenediamine tetraacetic acid; Tris (hydroxymethyl)aminomethane

Korea (TCCL): Triton X-100; water; Tween 20; Guanidinium chloride; ethylenediamine tetraacetic acid; Tris (hydroxymethyl)aminomethane

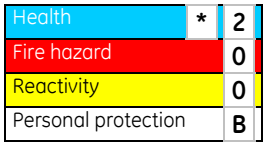
Philippines (RA6969): Triton X-100; water; Tween 20; Guanidinium chloride; ethylenediamine tetraacetic acid; Tris(hydroxymethyl)aminomethane

Section 16. Other information

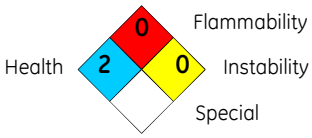
Label requirements

CAUSES SEVERE EYE IRRITATION.
CAUSES SKIN IRRITATION.
MAY CAUSE ALLERGIC SKIN REACTION.
MAY BE HARMFUL IF SWALLOWED.
CONTAINS MATERIAL WHICH MAY CAUSE DAMAGE TO THE FOLLOWING ORGANS: CENTRAL NERVOUS SYSTEM, EYE, LENS OR CORNEA.

Hazardous Material Information System (U.S.A.)



National Fire Protection Association (U.S.A.)



Indicates information that has changed from previously issued version.

History

Date of printing	29 August 2006	**Date of previous issue**	No previous validation
Date of issue	29 August 2006	**Version**	1

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

GE Healthcare

Material Safety Data Sheet

United States
English

Section 1. Chemical product and company identification

Product name **Wash buffer; part of 'illustra™blood genomicPrep Mini Spin (50 pack)'**

Catalogue Number 28904264

Component Number 9603C

Material uses Industrial applications: Analytical reagent. Research.
Validation date 24 August 2006
Print date 24 August 2006

Supplier
GE Healthcare Bio-Sciences AB
SE-751 84 Uppsala
Sweden
+46 (0)18 612 0000

In case of emergency	US	ChemTrec (US)	1-800-424-9300
	Canada	ChemTrec (US)	1-703-527-3887

2. Hazards identification

Physical state Liquid.
Odor Odorless.
OSHA/HCS status While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this MSDS contains valuable information critical to the safe handling and proper use of the product. This MSDS should be retained and available for employees and other users of this product.
Emergency overview No specific hazard.

Potential acute health effects

Eyes No known significant effects or critical hazards.
Skin No known significant effects or critical hazards.
Inhalation No known significant effects or critical hazards.
Ingestion No known significant effects or critical hazards.

Potential chronic health effects
CARCINOGENIC EFFECTS: Not available.
MUTAGENIC EFFECTS: Not available.
TERATOGENIC EFFECTS: Not available.

See toxicological information (section 11)

3. Composition/information on ingredients

Section 4. First aid measures

Eye contact In case of contact with eyes, rinse immediately with plenty of water. Get medical attention if irritation occurs.
Skin contact Wash with soap and water. Get medical attention if symptoms appear.
Inhalation If inhaled, remove to fresh air. Get medical attention if symptoms appear.
Ingestion Do not ingest. Get medical attention if symptoms appear.
Protection of first-aiders No action shall be taken involving any personal risk or without suitable training.

Section 5. Fire fighting measures

Flammability of the product Non-flammable.

Extinguishing media

Suitable Use an extinguishing agent suitable for the surrounding fire.

Not suitable None known.

Special exposure hazards

No specific hazard.

Special protective equipment for fire-fighters Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions Immediately contact emergency personnel. Keep unnecessary personnel away. Use suitable protective equipment.

Environmental precautions Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Methods for cleaning up If emergency personnel are unavailable, contain spilled material. For small spills, add absorbent (soil may be used in the absence of other suitable materials), scoop up material and place in a sealable, liquid-proof container for disposal. For large spills, dike spilled material or otherwise contain material to ensure runoff does not reach a waterway. Place spilled material in an appropriate container for disposal.

Section 7. Handling and storage

Handling Wash thoroughly after handling.

Storage Keep container tightly closed. Keep container in a cool, well-ventilated area.

Section 8. Exposure controls, personal protection

Engineering measures No special ventilation requirements. Good general ventilation should be sufficient to control airborne levels. If this product contains ingredients with exposure limits, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.

Personal protection

Eyes Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts.

Skin Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Hands Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Hygiene measures Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Consult local authorities for acceptable exposure limits.

Section 9. Physical and chemical properties

Physical state Liquid.

Color Colorless.

Odor Odorless.

pH 8 (Conc. (% w/w): 100) [Basic.]

Boiling/condensation point The lowest known value is 100°C (212°F) (water).

Melting/freezing point May start to solidify at 0°C (32°F) based on data for: water.

Critical temperature The lowest known value is 374.3°C (705.7°F) (water).

Vapor pressure The highest known value is 3.2 kPa (23.8 mm Hg) (at 20°C) (water).

Evaporation rate 0.36 (water) compared with Butyl acetate.

Dispersibility properties See solubility in water, methanol, acetone.

Solubility Easily soluble in cold water, hot water, methanol, acetone.

Section 10. Stability and reactivity

Stability and reactivity The product is stable.

Incompatibility with various substances Non-reactive or compatible with the following materials: oxidizing materials, reducing materials, combustible materials, organic materials, metals, acids, alkalis and moisture.

Hazardous polymerization Will not occur.

Conditions of reactivity Non-flammable in the presence of the following materials or conditions: open flames, sparks and static discharge, heat, shocks and mechanical impacts, oxidizing materials, reducing materials, combustible materials, organic materials, metals, acids, alkalis and moisture.
Non-explosive in the presence of the following materials or conditions: open flames, sparks and static discharge, heat, shocks and mechanical impacts, oxidizing materials, reducing materials, combustible materials, organic materials, metals, acids, alkalis and moisture.

Section 11. Toxicological information

Other toxic effects on humans No specific information is available in our database regarding the other toxic effects of this material to humans.

Specific effects

Carcinogenic effects No known significant effects or critical hazards.

Mutagenic effects No known significant effects or critical hazards.

Teratogenicity / Reproduction toxicity No known significant effects or critical hazards.

Sensitization

Ingestion No known significant effects or critical hazards.

Inhalation No known significant effects or critical hazards.

Eyes No known significant effects or critical hazards.

Skin No known significant effects or critical hazards.

Section 12. Ecological information

Environmental precautions No known significant effects or critical hazards.

Toxicity of the products of biodegradation The product itself and its products of degradation are not toxic.

Section 13. Disposal considerations

Waste disposal The generation of waste should be avoided or minimized wherever possible. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.

Consult your local or regional authorities.

Section 14. Transport information

International transport regulations

Not classified.

Section 15. Regulatory information

HCS Classification Not regulated.

U.S. Federal regulations TSCA 8(b) inventory: water; ethylenediamine tetraacetic acid; Tris(hydroxymethyl)aminomethane

SARA 302/304/311/312 extremely hazardous substances: No products were found.
SARA 302/304 emergency planning and notification: No products were found.
SARA 302/304/311/312 hazardous chemicals: No products were found.
SARA 311/312 MSDS distribution - chemical inventory - hazard identification: No products were found.

Clean Water Act (CWA) 307: No products were found.

Clean Water Act (CWA) 311: ethylenediamine tetraacetic acid

Clean Air Act (CAA) 112 accidental release prevention: No products were found.

Clean Air Act (CAA) 112 regulated flammable substances: No products were found.

Clean Air Act (CAA) 112 regulated toxic substances: No products were found.

State regulations Pennsylvania RTK: ethylenediamine tetraacetic acid: (environmental hazard, generic environmental hazard)
Massachusetts RTK: ethylenediamine tetraacetic acid
New Jersey: ethylenediamine tetraacetic acid

EU regulations

Risk phrases This product is not classified according to EU legislation.

International regulations

International lists Australia (NICNAS): water; ethylenediamine tetraacetic acid; Tris(hydroxymethyl)aminomethane

China: water; ethylenediamine tetraacetic acid; Tris(hydroxymethyl)aminomethane

Germany water class: ethylenediamine tetraacetic acid; Tris(hydroxymethyl)aminomethane

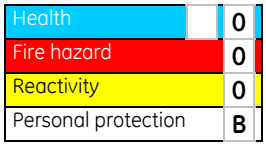
Japan (METI): water; ethylenediamine tetraacetic acid; Tris(hydroxymethyl)aminomethane

Korea (TCCL): water; ethylenediamine tetraacetic acid; Tris(hydroxymethyl)aminomethane

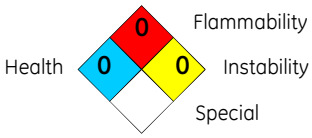
Philippines (RA6969): water; ethylenediamine tetraacetic acid; Tris(hydroxymethyl)aminomethane

Section 16. Other information

Hazardous Material Information System (U.S.A.)



National Fire Protection Association (U.S.A.)



Indicates information that has changed from previously issued version.

History

Date of printing	24 August 2006	**Date of previous issue**	No previous validation
Date of issue	24 August 2006	**Version**	1

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

GE Healthcare

Material Safety Data Sheet

United States
English

Section 1. Chemical product and company identification

Product name **Proteinase K; part of 'illustra™ blood genomicPrep Mini Spin (50 pack)'**

Catalogue Number 28904264

Component Number 406172

Material uses Industrial applications: Analytical chemistry. Research.
Validation date 24 August 2006
Print date 24 August 2006

Supplier
GE Healthcare Bio-Sciences AB
SE-751 84 Uppsala
Sweden
+46 (0)18 612 0000

In case of emergency			
	US	ChemTrec (US)	1-800-424-9300
	Canada	ChemTrec (US)	1-703-527-3887

2. Hazards identification

Physical state Solid.
Odor Odorless.
OSHA/HCS status This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Emergency overview Warning!

CAUSES RESPIRATORY TRACT, EYE AND SKIN IRRITATION.
MAY CAUSE ALLERGIC RESPIRATORY REACTION.
CONTAINS MATERIAL WHICH MAY CAUSE DAMAGE TO THE FOLLOWING ORGANS: LUNGS.

Avoid contact with skin and clothing. Do not breathe dust. Keep container closed. Use only with adequate ventilation. Wash thoroughly after handling.

Routes of entry Dermal contact. Eye contact. Inhalation. Ingestion.

Potential acute health effects

Eyes Irritating to eyes.
Skin Irritating to skin.
Inhalation Irritating to respiratory system. May cause sensitization by inhalation.
Ingestion No known significant effects or critical hazards.

Potential chronic health effects
CARCINOGENIC EFFECTS: Not available.
MUTAGENIC EFFECTS: Not available.
TERATOGENIC EFFECTS: Not available.

Medical conditions aggravated by over-exposure Repeated skin exposure can produce local skin destruction or dermatitis. Repeated or prolonged exposure to the substance can produce lung damage. Repeated exposure of the eyes to a low level of dust can produce eye irritation. Repeated or prolonged exposure to the substance can produce target organs damage.

See toxicological information (section 11)

3. Composition/information on ingredients

Name	CAS number	% by weight	Exposure limits
Proteinase K	39450-01-6	100	

Section 4. First aid measures

Eye contact In case of contact with eyes, rinse immediately with plenty of water. Get medical attention if irritation occurs.

Skin contact Wash with soap and water. Get medical attention if symptoms appear.

Inhalation If inhaled, remove to fresh air. Get medical attention if symptoms appear.

Ingestion Do not ingest. If potentially dangerous quantities of this material have been swallowed, call a physician immediately. Get medical attention if symptoms appear.

Protection of first-aiders No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

Section 5. Fire fighting measures

Flammability of the product Non-flammable.

Extinguishing media

Suitable Use an extinguishing agent suitable for the surrounding fire.

Not suitable None known.

Special exposure hazards

No specific hazard.

Special protective equipment for fire-fighters Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions Immediately contact emergency personnel. Keep unnecessary personnel away. Use suitable protective equipment.

Environmental precautions Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Methods for cleaning up If emergency personnel are unavailable, vacuum or carefully scoop up spilled material and place in an appropriate container for disposal by incineration. Avoid creating dusty conditions and prevent wind dispersal.

Section 7. Handling and storage

Handling Avoid contact with eyes, skin and clothing. Keep container closed. Use only with adequate ventilation. Do not breathe dust. Wash thoroughly after handling.

Storage Keep container tightly closed. Keep container in a cool, well-ventilated area.

Section 8. Exposure controls, personal protection

Engineering measures Use only with adequate ventilation. If user operations generate dust, fumes, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Personal protection

Eyes Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts.

Skin Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Hands Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Hygiene measures Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Consult local authorities for acceptable exposure limits.

Section 9. Physical and chemical properties

Physical state	Solid.
Color	White.
Odor	Odorless.
Volatility	0% (w/w)
VOC	0 (g/l).
Dispersibility properties	See solubility in water.
Solubility	Easily soluble in cold water, hot water.

Section 10. Stability and reactivity

Stability and reactivity	The product is stable.
Incompatibility with various substances	Reactive or incompatible with the following materials: oxidizing materials.
Hazardous polymerization	Will not occur.
Conditions of reactivity	Non-flammable in the presence of the following materials or conditions: open flames, sparks and static discharge, heat, shocks and mechanical impacts, oxidizing materials, reducing materials, combustible materials, organic materials, metals, acids, alkalis and moisture. Not considered to be a product presenting a risk of explosion.

Section 11. Toxicological information

Chronic effects on humans	Contains material which may cause damage to the following organs: lungs.
Other toxic effects on humans	Hazardous in case of skin contact (irritant), of eye contact (irritant), of inhalation (lung irritant, lung sensitizer).
Special remarks on chronic effects on humans	To the best of our knowledge, the toxicological properties of this substance have not been thoroughly investigated. (Proteinase K)

Specific effects

Carcinogenic effects	No known significant effects or critical hazards.
Mutagenic effects	No known significant effects or critical hazards.
Teratogenicity / Reproduction toxicity	No known significant effects or critical hazards.
Target organs	Contains material which may cause damage to the following organs: lungs.

Sensitization

Ingestion	No known significant effects or critical hazards.
Inhalation	Irritating to respiratory system. May cause sensitization by inhalation.
Eyes	Irritating to eyes.
Skin	Irritating to skin.

Section 12. Ecological information

Environmental precautions	No known significant effects or critical hazards.

Section 13. Disposal considerations

Waste disposal	The generation of waste should be avoided or minimized wherever possible. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.
RCRA classification	**Code:** Not classified

Consult your local or regional authorities.

Section 14. Transport information

International transport regulations

Not classified.

Section 15. Regulatory information

HCS Classification
Irritating material
Sensitizing material
Target organ effects

U.S. Federal regulations
TSCA: No products were found.

SARA 302/304/311/312 extremely hazardous substances: No products were found.
SARA 302/304 emergency planning and notification: No products were found.
SARA 302/304/311/312 hazardous chemicals: No products were found.
SARA 311/312 MSDS distribution - chemical inventory - hazard identification: No products were found.

Clean Water Act (CWA) 307: No products were found.

Clean Water Act (CWA) 311: No products were found.

Clean Air Act (CAA) 112 accidental release prevention: No products were found.

Clean Air Act (CAA) 112 regulated flammable substances: No products were found.

Clean Air Act (CAA) 112 regulated toxic substances: No products were found.

State regulations
No products were found.

EU regulations

Hazard symbol/symbols

Risk phrases
R36/37/38- Irritating to eyes, respiratory system and skin.
R42- May cause sensitization by inhalation.

Safety phrases
S22- Do not breathe dust.
S45- In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

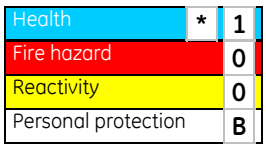
International regulations

International lists
China: Proteinase K

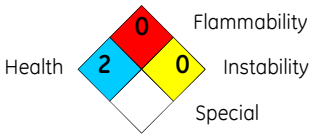
Section 16. Other information

Label requirements
CAUSES RESPIRATORY TRACT, EYE AND SKIN IRRITATION.
MAY CAUSE ALLERGIC RESPIRATORY REACTION.
CONTAINS MATERIAL WHICH MAY CAUSE DAMAGE TO THE FOLLOWING ORGANS: LUNGS.

Hazardous Material Information System (U.S.A.)



National Fire Protection Association (U.S.A.)



Indicates information that has changed from previously issued version.

History

Date of printing	24 August 2006	**Date of previous issue**	No previous validation
Date of issue	24 August 2006	**Version**	1

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

GE Healthcare

SAFETY STATEMENT

This document is only available in English.

1. Identification of the substance/preparation and of the company/undertaking

Product name **Elution buffer; part of 'illustra™ blood genomicPrep Mini Spin (50 pack)'**

Catalogue Number 28904264

Component Number 406298

Supplier

GE Healthcare Bio-Sciences AB
SE-751 84 Uppsala
Sweden
+46 (0)18 612 0000

Swedish Poisons Information Centre :
+46 (0)8 331 231

Europe	**USA**	**Australia**
+46 18 612 0000	1-800-424-9300	**000** or +61 2 9899 0999

2. Composition / information on ingredients

Substance/Preparation Preparation

Within the present knowledge of the supplier, this product does not contain any hazardous ingredients in quantities requiring reporting in this section, in accordance with EU or national regulations.

Statement of hazardous nature

To the best of our knowledge this substance/preparation is not classified as hazardous according to EU, US or any other known national regulations.

9. Physical and chemical properties

Physical state Liquid. **Color** Colorless.

16. Other information

History

Date of printing	28 September 2006	**Date of previous issue**	24 August 2006
Date of issue	28 September 2006	**Version**	2

Notice to Reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

This is not an MSDS. According to EU and US regulations we are not required to supply an MSDS for a product which is not classified as hazardous.