GE Healthcare

Material Safety Data Sheet

United States
English

Section 1. Chemical product and company identification

Product name **Solution III; part of 'illustra™ plasmidPrep Mini Spin (50 pack)'**

Catalogue Number 28904269

Component Number 9601D

Material uses Industrial applications: Analytical reagent. Research.
Validation date 7 August 2006
Print date 07 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 This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Emergency overview Danger!

CAUSES SEVERE RESPIRATORY TRACT, EYE AND SKIN BURNS.
CONTAINS MATERIAL WHICH CAUSES DAMAGE TO THE FOLLOWING ORGANS: RESPIRATORY TRACT, SKIN, EYE, LENS OR CORNEA, TEETH.
MAY BE HARMFUL IF ABSORBED THROUGH SKIN OR IF SWALLOWED.
CONTAINS MATERIAL WHICH MAY CAUSE DAMAGE TO THE FOLLOWING ORGANS: CENTRAL NERVOUS SYSTEM.

Do not ingest. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. 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 Severely corrosive to the eyes.
Skin Harmful in contact with skin. Severely corrosive to the skin.
Inhalation Severely corrosive to the respiratory system.
Ingestion Harmful if swallowed. May cause burns to mouth, throat and stomach.

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 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	42	
Acetic acid	64-19-7	18	**ACGIH TLV (United States, 1/2005).** STEL: 37 mg/m³ 15 minute/minutes. Form: All forms STEL: 15 ppm 15 minute/minutes. Form: All forms TWA: 25 mg/m³ 8 hour/hours. Form: All forms TWA: 10 ppm 8 hour/hours. Form: All forms **NIOSH REL (United States, 12/2001).** STEL: 37 mg/m³ 15 minute/minutes. Form: All forms STEL: 15 ppm 15 minute/minutes. Form: All forms TWA: 25 mg/m³ 10 hour/hours. Form: All forms TWA: 10 ppm 10 hour/hours. Form: All forms **OSHA PEL (United States, 8/1997).** TWA: 25 mg/m³ 8 hour/hours. Form: All forms TWA: 10 ppm 8 hour/hours. Form: All forms **OSHA PEL 1989 (United States, 3/1989).** TWA: 25 mg/m³ 8 hour/hours. Form: All forms TWA: 10 ppm 8 hour/hours. Form: All forms
Potassium acetate	127-08-2	6.37	

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 Get medical attention immediately. Flush contaminated skin with plenty of water. Continue to rinse for at least 10 minutes. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing or wear gloves. Chemical burns must be treated promptly by a physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Inhalation Get medical attention immediately. Move exposed person to fresh air. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. 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. 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 Get medical attention immediately. 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. Chemical burns must be treated promptly by a physician. 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. 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. Wash contaminated clothing thoroughly with water before removing or wear gloves.

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. Do not get in eyes or on skin or clothing. Keep container closed. Use only with adequate ventilation. Do not breathe vapor or mist. 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, 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.

Product name	Exposure limits
Acetic acid	**ACGIH TLV (United States, 1/2005).** STEL: 37 mg/m^3 15 minute/minutes. Form: All forms STEL: 15 ppm 15 minute/minutes. Form: All forms TWA: 25 mg/m^3 8 hour/hours. Form: All forms TWA: 10 ppm 8 hour/hours. Form: All forms **NIOSH REL (United States, 12/2001).** STEL: 37 mg/m^3 15 minute/minutes. Form: All forms STEL: 15 ppm 15 minute/minutes. Form: All forms TWA: 25 mg/m^3 10 hour/hours. Form: All forms TWA: 10 ppm 10 hour/hours. Form: All forms **OSHA PEL (United States, 8/1997).** TWA: 25 mg/m^3 8 hour/hours. Form: All forms TWA: 10 ppm 8 hour/hours. Form: All forms **OSHA PEL 1989 (United States, 3/1989).** TWA: 25 mg/m^3 8 hour/hours. Form: All forms TWA: 10 ppm 8 hour/hours. Form: All forms

Section 9. Physical and chemical properties

Physical state Liquid.

Color Colorless.

Odor Odorless.

pH 4.2 (Conc. (% w/w): 100) [Acidic.]

Boiling/condensation point The lowest known value is 100°C (212°F) (water). Weighted average: 106.28°C (223.3°F)

Melting/freezing point May start to solidify at 16.6°C (61.9°F) based on data for: Acetic acid. Weighted average: 5.79°C (42.4°F)

Critical temperature The lowest known value is 321.6°C (610.9°F) (Acetic acid).

Relative density The only known value is 1.051 (Water = 1) (Acetic acid).

Vapor pressure The highest known value is 3.2 kPa (23.8 mm Hg) (at 20°C) (water). Weighted average: 2.61 kPa (19.58 mm Hg) (at 20°C)

Vapor density The highest known value is 2.1 (Air = 1) (Acetic acid).

Odor threshold The lowest known value is 5 to 80 ppm (Acetic acid)

Evaporation rate The highest known value is 1.34 (Acetic acid) Weighted average: 0.7compared with Butyl acetate.

Viscosity Dynamic: The highest known value is 1.22 cP (Acetic acid)
Kinematic: The highest known value is 1.17 cSt (Acetic acid)

Dispersibility properties See solubility in water, methanol, diethyl ether, acetone.

Solubility Easily soluble in cold water, hot water, methanol, acetone.
Soluble in diethyl ether.

Section 10. Stability and reactivity

Stability and reactivity The product is stable.

Conditions of instability Hygroscopic. Keep container tightly closed. (Acetic acid)

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

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/m³ (24 hour/hours)	Inhalation	Rabbit
Acetic acid	LD50	3310 mg/kg	Oral	Rat
	LD50	1060 mg/kg	Dermal	Rabbit
	LDLo	600 mg/kg	Oral	Rabbit
	LC50	5620 ppm (1 hour/hours)	Inhalation	Mouse
Potassium acetate	LD50	3250 mg/kg	Oral	Rat

Chronic effects on humans Contains material which causes damage to the following organs: upper respiratory tract, skin, eye, lens or cornea, teeth.
Contains material which may cause damage to the following organs: central nervous system (CNS).

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 causes damage to the following organs: upper respiratory tract, skin, eye, lens or cornea, teeth.
Contains material which may cause damage to the following organs: central nervous system (CNS).

Sensitization

Ingestion May cause burns to mouth, throat and stomach.

Inhalation Severely corrosive to the respiratory system.

Eyes Severely corrosive to the eyes.

Skin Severely corrosive to the skin.

Section 12. Ecological information

Ecotoxicity data

Product/ingredient name	Species	Period	Result
Guanidinium chloride	L. idus (LC50)	48 hour/hours	1759 mg/l
Acetic acid	Daphnia magna (EC50)	48 hour/hours	65 mg/l
	Lepomis macrochirus (LC50)	96 hour/hours	75 mg/l
	Pimephales promelas (LC50)	96 hour/hours	79 mg/l
	Pimephales promelas (LC50)	96 hour/hours	88 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. Some metallic oxides.

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
Corrosive material
Target organ effects

U.S. Federal regulations
TSCA 8(b) inventory: water; Acetic acid; Potassium acetate; Guanidinium chloride

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: Acetic acid; Potassium acetate
SARA 311/312 MSDS distribution - chemical inventory - hazard identification: Acetic acid: Fire hazard, Immediate (acute) health hazard, Delayed (chronic) health hazard; Potassium acetate: Delayed (chronic) health hazard

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

Clean Water Act (CWA) 311: Acetic 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: Acetic acid: (environmental hazard, generic environmental hazard)
Florida: Acetic acid; Guanidinium chloride
Minnesota: Acetic acid; Guanidinium chloride
Massachusetts RTK: Acetic acid
New Jersey: Acetic acid

Ingredient name	Cancer	Reproductive	No significant risk level	Maximum acceptable dosage level
Acetic acid	No.	No.	No.	No.

EU regulations

Hazard symbol/symbols

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

International regulations

International lists
Australia (NICNAS): water; Acetic acid; Potassium acetate; Guanidinium chloride

China: water; Acetic acid; Potassium acetate; Guanidinium chloride

Germany water class: Acetic acid; Potassium acetate; Guanidinium chloride

Japan (METI): water; Acetic acid; Potassium acetate; Guanidinium chloride

Korea (TCCL): water; Acetic acid; Potassium acetate; Guanidinium chloride

Philippines (RA6969): water; Acetic acid; Potassium acetate; Guanidinium chloride

Section 16. Other information

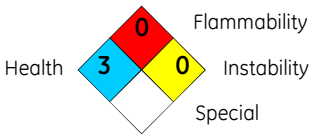
Label requirements

CAUSES SEVERE RESPIRATORY TRACT, EYE AND SKIN BURNS.
CONTAINS MATERIAL WHICH CAUSES DAMAGE TO THE FOLLOWING ORGANS: RESPIRATORY TRACT, SKIN, EYE, LENS OR CORNEA, TEETH.
MAY BE HARMFUL IF ABSORBED THROUGH SKIN OR IF SWALLOWED.
CONTAINS MATERIAL WHICH MAY CAUSE DAMAGE TO THE FOLLOWING ORGANS: CENTRAL NERVOUS SYSTEM.

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

Health	*	1
Fire hazard		0
Reactivity		0
Personal protection		B

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



Indicates information that has changed from previously issued version.

History

Date of printing	07 August 2006	**Date of previous issue**	No previous validation
Date of issue	07 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 **Solution I; part of 'illustra™ plasmidPrep Mini Spin (50 pack)'**

Catalogue Number 28904269

Component Number 9601A

Material uses Industrial applications: Analytical reagent. Research.
Validation date 7 August 2006
Print date 07 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 This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Emergency overview Warning!

CAUSES EYE AND SKIN IRRITATION.
MAY CAUSE RESPIRATORY TRACT IRRITATION.

Avoid contact with skin and clothing. Avoid breathing vapor or mist. Keep container closed. Use only with adequate ventilation. Wash thoroughly after handling.

Routes of entry Dermal contact. Eye contact. Inhalation.

Potential acute health effects

Eyes Irritating to eyes.
Skin Irritating to skin.
Inhalation Moderately irritating to the respiratory system.
Ingestion No known significant effects or critical hazards.

Potential chronic health effects **CARCINOGENIC EFFECTS**: Classified A4 (Not classifiable for humans or animals.) by ACGIH, 3 (Not classifiable for humans.) by IARC [Hydrochloric acid].
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 or prolonged contact with spray or mist may produce chronic eye irritation and severe skin irritation.

See toxicological information (section 11)

3. Composition/information on ingredients

Name	CAS number	% by weight	Exposure limits
Tris(hydroxymethyl)aminomethane	77-86-1	1.21	

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 Avoid contact with eyes, skin and clothing. Keep container closed. Use only with adequate ventilation. Avoid breathing vapor or mist. 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	7.5 (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	Slightly reactive or incompatible with the following materials: oxidizing materials and moisture. Non-reactive or compatible with the following materials: reducing materials, combustible materials, organic materials, metals, acids and alkalis.
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
Tris(hydroxymethyl)aminomethane	LD50	5900 mg/kg	Oral	Rat
	LDLo	1000 mg/kg	Oral	Rabbit

Chronic effects on humans **CARCINOGENIC EFFECTS**: Classified A4 (Not classifiable for humans or animals.) by ACGIH, 3 (Not classifiable for humans.) by IARC [Hydrochloric acid].

Other toxic effects on humans Not considered to be toxic 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	Moderately irritating to the respiratory system.
Eyes	Irritating to eyes.
Skin	Irritating to skin.

Section 12. Ecological information

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.).
Toxicity of the products of biodegradation	The products of degradation are more toxic than 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

U.S. Federal regulations TSCA 8(b) inventory: Hydrochloric acid; water; 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: Hydrochloric acid

Clean Air Act (CAA) 112 accidental release prevention: Hydrochloric acid

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

Clean Air Act (CAA) 112 regulated toxic substances: Hydrochloric acid

State regulations Rhode Island RTK hazardous substances: Hydrochloric acid
Pennsylvania RTK: Hydrochloric acid: (environmental hazard, generic environmental hazard)
Florida: Hydrochloric acid
Minnesota: Hydrochloric acid
Massachusetts RTK: Hydrochloric acid
New Jersey: Hydrochloric acid

Ingredient name	Cancer	Reproductive	No significant risk level	Maximum acceptable dosage level
Hydrochloric acid	No.	No.	No.	No.
Ethylenediaminetetraacetic acid, disodium salt, dihydrate	No.	No.	No.	No.

EU regulations

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

International regulations

International lists Australia (NICNAS): Hydrochloric acid; water; Ethylenediaminetetraacetic acid, disodium salt, dihydrate; Tris (hydroxymethyl)aminomethane

China: Hydrochloric acid; water; Ethylenediaminetetraacetic acid, disodium salt, dihydrate; Tris (hydroxymethyl)aminomethane

Germany water class: Hydrochloric acid; Ethylenediaminetetraacetic acid, disodium salt, dihydrate; Tris (hydroxymethyl)aminomethane

Japan (METI): Hydrochloric acid; water; Tris(hydroxymethyl)aminomethane

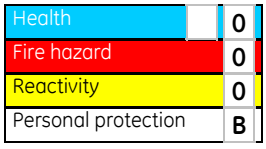
Korea (TCCL): Hydrochloric acid; water; Tris(hydroxymethyl)aminomethane

Philippines (RA6969): Hydrochloric acid; water; Ethylenediaminetetraacetic acid, disodium salt, dihydrate; Tris(hydroxymethyl)aminomethane

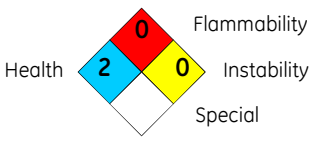
Section 16. Other information

Label requirements CAUSES EYE AND SKIN IRRITATION.
MAY CAUSE RESPIRATORY TRACT IRRITATION.

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



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



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Material Safety Data Sheet

United States
English

Section 1. Chemical product and company identification

Product name **Solution II; part of 'illustra™ plasmidPrep Mini Spin (50 pack)**

Catalogue Number 28904269

Component Number 9601B

Material uses Industrial applications: Analytical reagent. Research.
Validation date 7 August 2006
Print date 07 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 This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Emergency overview Warning!

CAUSES RESPIRATORY TRACT AND EYE IRRITATION.
CONTAINS MATERIAL WHICH CAUSES DAMAGE TO THE FOLLOWING ORGANS: SKIN, EYES.
MAY BE HARMFUL IF ABSORBED THROUGH SKIN OR IF SWALLOWED.

Do not ingest. Avoid prolonged contact with eyes, skin and clothing. Avoid breathing vapor or mist. Keep container closed. Use only with adequate ventilation. Wash thoroughly after handling.

Routes of entry Dermal contact. Eye contact.

Potential acute health effects

Eyes Irritating to eyes.
Skin Harmful in contact with skin.
Inhalation Irritating to respiratory system.
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 or prolonged exposure to the substance can produce lung damage. 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
Sodium dodecyl sulfate	151-21-3	1	

Section 4. First aid measures

Eye contact 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. Get medical attention.

Skin contact Flush contaminated skin with plenty of water. Continue to rinse for at least 10 minutes. Get medical attention. 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. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. 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 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. Keep container closed. Use only with adequate ventilation. Avoid breathing vapor or mist. 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, 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	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. Insoluble in diethyl ether.

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 acids. Slightly reactive or incompatible with the following materials: metals. Non-reactive or compatible with the following materials: reducing materials, combustible materials, organic materials, 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

Toxicity data

Product/ingredient name	Test	Result	Route	Species
Sodium dodecyl sulfate	LD50	1288 mg/kg	Oral	Rat

Chronic effects on humans Contains material which causes damage to the following organs: skin, eyes.

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 causes damage to the following organs: skin, eyes.

Sensitization

Ingestion	No known significant effects or critical hazards.
Inhalation	Irritating to respiratory system.
Eyes	Irritating to eyes.
Skin	No known significant effects or critical hazards.

Section 12. Ecological information

Ecotoxicity data

Product/ingredient name	Species	Period	Result
Sodium dodecyl sulfate	Daphnia magna (EC50)	48 hour/hours	6 mg/l
	Daphnia magna (EC50)	48 hour/hours	31 mg/l
	Selenastrum capricornutum (EC50)	48 hour/hours	104.8 mg/l
	Cyprinus carpio (LC50)	96 hour/hours	1.31 mg/l
	Lepomis macrochirus (LC50)	96 hour/hours	4.5 mg/l
	Oncorhynchus mykiss (LC50)	96 hour/hours	4.62 mg/l

Environmental precautions	No known significant effects or critical hazards.
Products of degradation	These products are carbon oxides (CO, CO_2) and water, sulfur oxides (SO_2, SO_3 etc.). Some metallic oxides.
Toxicity of the products of biodegradation	The products of degradation are less toxic than 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
Target organ effects

U.S. Federal regulations

TSCA 8(b) inventory: water; Sodium hydroxide; Sodium dodecyl sulfate

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: Sodium dodecyl sulfate
SARA 311/312 MSDS distribution - chemical inventory - hazard identification: Sodium dodecyl sulfate: Immediate (acute) health hazard, Delayed (chronic) health hazard

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

Clean Water Act (CWA) 311: Sodium hydroxide

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: Sodium hydroxide: (environmental hazard, generic environmental hazard)
Florida: Sodium hydroxide
Minnesota: Sodium hydroxide
Massachusetts RTK: Sodium hydroxide
New Jersey: Sodium hydroxide

EU regulations

Hazard symbol/symbols

Risk phrases

R36/38- Irritating to eyes and skin.

International regulations

International lists

Australia (NICNAS): water; Sodium hydroxide; Sodium dodecyl sulfate

China: water; Sodium hydroxide; Sodium dodecyl sulfate

Germany water class: Sodium hydroxide; Sodium dodecyl sulfate

Japan (METI): water; Sodium hydroxide; Sodium dodecyl sulfate

Korea (TCCL): water; Sodium hydroxide; Sodium dodecyl sulfate

Philippines (RA6969): water; Sodium hydroxide; Sodium dodecyl sulfate

Section 16. Other information

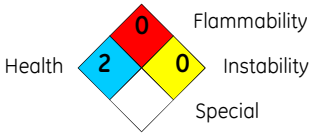
Label requirements

CAUSES RESPIRATORY TRACT AND EYE IRRITATION.
CONTAINS MATERIAL WHICH CAUSES DAMAGE TO THE FOLLOWING ORGANS: SKIN, EYES.
MAY BE HARMFUL IF ABSORBED THROUGH SKIN OR IF SWALLOWED.

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

Health	*	1
Fire hazard		0
Reactivity		0
Personal protection		B

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



Indicates information that has changed from previously issued version.

History

Date of printing	07 August 2006	**Date of previous issue**	No previous validation
Date of issue	07 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 **Wash solution; part of 'illustra™ plasmidPrep Mini Spin (50 pack)'**

Catalogue Number 28904269

Component Number 9601C

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	08 August 2006	**Date of previous issue**	No previous validation
Date of issue	08 August 2006	**Version**	1

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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™ plasmidPrep Mini Spin (50 pack)'**

Catalogue Number 28904269

Component Number 9601E

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

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