

SAFETY DATA SHEET



pH Binding Buffer (Basic)

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

Product name : pH Binding Buffer (Basic) **Manufacturer** : Norgen Biotek Corp.
344 Merritt St.
St. Catharines, Ontario
Canada L2T 1K6
Tel: (905) 227-8848
Fax: (905) 227-1061

Chemical product name : Not applicable. **Supplier** : Norgen Biotek Corp.
344 Merritt St.
St. Catharines, Ontario
Canada L2T 1K6
Tel: (905) 227-8848
Fax: (905) 227-1061

Synonyms : Not available. **Emergency telephone number** : Canada: CANUTEC-1-613-996-6666
US: CHEMTREC-1-800-424-9300

Chemical Formula : Not applicable.

Material Uses : pH binding buffer for basic proteins..

Catalog#

10106, 10404, 10204, 10504, 10307, 10606, 17006, 17104, 17704

2. Composition / information on ingredients

Substance/Preparation : Preparation.

Chemical name	CAS No.	%	EC Number	Classification
United States 1) No hazardous ingredients.				
Germany 1) No hazardous ingredients. See Section 16 for the full text of the R Phrases declared above				
United Kingdom (UK) 1) No hazardous ingredients.				
Japan 1) No hazardous ingredients.				
Canada 1) No hazardous ingredients.				

This material is classified as non-hazardous under the United States OSHA regulation, the European DSD/DPD Directives and several countries specific requirements, in Japan and under the Canadian WHMIS regulation.

See Section 8 for Exposure Limits.
See Section 11 for Toxicological Data.
See Section 14 for UN Number.

3. Hazards identification

Physical State and Appearance : Liquid.

Emergency Overview : No specific hazard.
USE WITH CARE
Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Keep container closed. Use with adequate ventilation. Wash thoroughly after handling.

Routes of Entry : Absorbed through skin. Eye contact. Inhalation.

The preparation is not classified as dangerous according to Directive 1999/45/EC and its amendments.

Classification in Europe : Not classified.

Effects and symptoms

Inhalation : Slightly hazardous in case of inhalation (lung irritant).

Skin Contact : Slightly hazardous in case of skin contact (irritant). Non-sensitizer for skin.

Eye Contact : Slightly hazardous in case of eye contact (irritant).

Aggravating conditions : Repeated or prolonged exposure is not known to aggravate medical condition.

Date of issue : 3/26/2003.

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4. First-aid measures

First-Aid measures

- Inhalation** : If inhaled, remove to fresh air. Get medical attention if symptoms appear.
- Ingestion** : Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately.
- Skin Contact** : Wash with soap and water. Get medical attention if irritation develops. Cold water may be used.
- Eye Contact** : Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 20 minutes. Cold water may be used. Get medical attention.
- Notes to physician** : Not available.
- Protection of first-aiders** : Not available.

5. Fire-fighting measures

Extinguishing Media

- Suitable** : Use extinguishing media suitable for surrounding materials.
- Unsuitable** : Not available.
- Unusual fire/explosion hazards** : Not available.
- Hazardous thermal (de)composition products** : Not applicable.
- Special fire-fighting procedures** : Fire fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear.
- Protection of fire-fighters** : Not applicable.

6. Accidental release measures

- Personal precautions** : Splash goggles. Full suit. Boots. Gloves. Suggested protective clothing might not be sufficient; consult a specialist before handling this product.
- Environmental Precautions and Clean-up Methods** : Absorb with an inert material and put the spilled material in an appropriate waste disposal. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system.

Note: See section 8 for personal protective equipment and section 13 for waste disposal.

7. Handling and storage

- Handling** : Avoid contact with eyes. Wear suitable protective clothing. If you feel unwell, seek medical attention and show the label when possible. Keep away from incompatibles such as oxidizing agents.
- Storage** : Keep container tightly closed. Keep container in a cool, well-ventilated area. Preferred storage condition is room temperature. For long-term storage keep at 4°C.
- Germany - Storage Code** : Not available.

8. Exposure controls/personal protection

- Engineering measures** : Good general ventilation should be sufficient to control airborne levels.
- Hygiene measures** : Wash hands after handling compounds and before eating, smoking, using lavatory, and at the end of day.

<u>Ingredient Name</u>	<u>Occupational Exposure Limits</u>
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United States

1) No hazardous ingredients.

Germany

1) No hazardous ingredients.

United Kingdom (UK)

1) No hazardous ingredients.

Japan

1) No hazardous ingredients.

Canada

1) No hazardous ingredients.

- Recommended monitoring procedures** : Not available.

Personal protective equipment

- Respiratory system** : Vapor respirator. Be sure to use an approved/certified respirator or equivalent.
- Skin and body** : Lab coat.
- Hands** : Gloves.
- Eyes** : Splash goggles.

9. Physical and chemical properties

Physical state	: Liquid.
Color	: Colorless.
Odor	: Odorless.
pH	: 7 to 9 [Basic.]
Boiling Point	: The lowest known value is 100°C (212°F) (Water).
Melting Point	: May start to solidify at 0°C (32°F) based on data for: Water.
Flash point	: Not applicable.
Explosive properties	: Risks of explosion of the product in presence of mechanical impact: Not applicable. Risks of explosion of the product in presence of static discharge: Not applicable.
Density	: The only known value is 1 (Water = 1) (Water).
Solubility	: Easily soluble in cold water, hot water, methanol, acetone.

10. Stability and reactivity

Stability	: The product is stable at room temperature.
Conditions to avoid	: The product is unstable at a temperature below 4°C and above 100°C. See Section 7 for storage conditions.
Materials to avoid	: Reactive with oxidizing agents, alkalis.
Hazardous Decomposition Products	: Not applicable.

11. Toxicological information

Acute toxicity

<u>Ingredient Name</u>	<u>Test</u>	<u>Result</u>	<u>Route</u>	<u>Species</u>
No hazardous ingredients.				

Skin irritation	: Non-irritant for skin.
Eye irritation	: Slightly hazardous in case of eye contact (irritant).
Sensitization	: Non-sensitizer for skin.

Chronic toxicity

Carcinogenic Effects	: Repeated or prolonged exposure is not known to aggravate medical condition.
Mutagenic Effects	: Not available.
Reproduction toxicity	: Not available.
Developmental and Teratogenic Effects	: Not available.

12. Ecological information

Ecotoxicity Data

<u>Ingredient Name</u>	<u>Species</u>	<u>Period</u>	<u>Result</u>
No hazardous ingredients.			

Mobility	: Not available.
Persistence/degradability	: Not available.
Bioaccumulative potential	: Not available.
Soil/Water Partition Coefficient (K_{oc})	: Not available.

13. Disposal considerations

Methods of disposal	: Waste must be disposed of in accordance with federal, state and local environmental control regulations.
Waste Classification	: Not applicable.
European Waste Catalogue (EWC)	: Not available.
Hazardous Waste	: To present knowledge of the supplier, this product is not regarded as hazardous waste as defined by EU Directive 94/904/EC.

14. Transport information

International transport regulations

pH Binding Buffer (Basic)

Regulatory Information	Classification
DOT (United States)	Not regulated.
ADR/RID (Europe)	Not regulated.
ADN (Europe)	Not regulated.
Road Law (Japan)	Not regulated.
TDG (Canada)	Not regulated.
IATA-DGR	Not regulated.
IMDG	Not regulated.

15. Regulatory information

HCS (United States) : Not controlled under the HCS (United States).

U.S. Federal Regulations : TSCA 8(b) inventory: Components listed.
SARA 302/304/311/312 extremely hazardous substances: No ingredient was found.
SARA 302/304 emergency planning and notification: No ingredient was found.
SARA 302/304/311/312 hazardous chemicals: No ingredient was found.
SARA 311/312 MSDS distribution - chemical inventory - hazard identification: No ingredient was found.
SARA 313 toxic chemical notification and release reporting: No ingredient was found.
Clean Water Act (CWA) 307: No ingredient was found.
Clean Water Act (CWA) 311: No ingredient was found.
Clean Air Act (CAA) 112 accidental release prevention: No ingredient was found.
Clean Air Act (CAA) 112 regulated flammable substances: No ingredient was found.
Clean Air Act (CAA) 112 regulated toxic substances: No ingredient was found.

State Regulations :
California Prop. 65: No ingredient was found.

EU Regulations

Risk Phrases : This product is not classified according to the EU regulations.
Safety Phrases : Not applicable.
Contains : No hazardous ingredients at or above concentration to be considered.
Product Use : Classification and labeling have been performed according to EU directives 67/548/EEC, 88/379/EEC including amendments and the intended use.
- Consumer applications.

National regulations

Germany

Employment restrictions in accordance with § 15b of the Hazardous Substance Ordinance : No.
Hazardous Incident Ordinance : No.
Ordinance on Combustible Liquids : Class: Omitted
Hazard class for water (GWK) : 1

United Kingdom (UK)

VOC Content (Retail Use) : Not applicable.
VOC Content (Industrial Use) : Contains 0 wt% VOC.

Japan Control Laws : This product does not contain hazardous ingredient at a concentration level for which a declaration is needed.

WHMIS (Canada) : Not controlled under WHMIS (Canada).
DSL/NDL: Components listed.

This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

16. Other information

US Label Requirements : USE WITH CARE

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

Health	1
Fire Hazard	0
Reactivity	0
Personal Protection	H

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



Europe Label :

Japan Label : This product does not contain hazardous ingredient at a concentration level for which a declaration is needed.

WHMIS Label :

HISTORY

- Date of printing : 3/26/2003.
- Date of issue : 3/26/2003.
- Date of Previous Issue : No Previous Validation.
- Version : 1
- Prepared by : Kemika XXI inc.

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.

SAFETY DATA SHEET



Cell Lysis Reagent

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

Product name : Cell Lysis Reagent

Manufacturer : Norgen Biotek Corp.
344 Merritt St.
St. Catharines, Ontario
Canada L2T 1K6
Tel: (905) 227-8848
Fax: (905) 227-1061

Chemical product name : Not applicable.

Supplier : Norgen Biotek Corp.
344 Merritt St.
St. Catharines, Ontario
Canada L2T 1K6
Tel: (905) 227-8848
Fax: (905) 227-1061

Synonyms : Not available.

Chemical Formula : Not applicable.

Emergency telephone number : Canada: CANUTEC-1-613-996-6666
US: CHEMTREC-1-800-424-9300

Material Uses : Not available.

Catalog#

10310, 10609, 17707

2. Composition / information on ingredients

Substance/Preparation : Preparation.

Chemical name	CAS No.	%	EC Number	Classification
United States 1) No hazardous ingredients.				
Germany 1) No hazardous ingredients. See Section 16 for the full text of the R Phrases declared above				
United Kingdom (UK) 1) No hazardous ingredients.				
Japan 1) No hazardous ingredients.				
Canada 1) No hazardous ingredients.				

This material is classified as non-hazardous under the United States OSHA regulation, the European DSD/DPD Directives and several countries specific requirements, in Japan and under the Canadian WHMIS regulation.

See Section 8 for Exposure Limits.
See Section 11 for Toxicological Data.
See Section 14 for UN Number.

3. Hazards identification

Physical State and Appearance : Liquid.

Emergency Overview : No specific hazard.
USE WITH CARE.

Routes of Entry : Absorbed through skin. Ingestion.

The substance is not classified as dangerous according to Directive 2001/59/EC.

Classification in Europe : Not classified.

Effects and symptoms

Inhalation : Non-irritant for lungs. Non-sensitizer for lungs.

Skin Contact : Non-irritant for skin. Non-sensitizer for skin.

Eye Contact : Non-irritating to the eyes.

Aggravating conditions : Repeated or prolonged exposure is not known to aggravate medical condition.

4. First-aid measures

First-Aid measures

- Inhalation** : If inhaled, remove to fresh air. Get medical attention if symptoms appear.
- Ingestion** : Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately.
- Skin Contact** : Wash with soap and water. Get medical attention if irritation develops. Cold water may be used.
- Eye Contact** : Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 20 minutes. Cold water may be used. Get medical attention if irritation occurs.
- Notes to physician** : Not available.
- Protection of first-aiders** : Not available.

5. Fire-fighting measures

Extinguishing Media

- Suitable** : Use extinguishing media suitable for surrounding materials.
- Unsuitable** : Not available.
- Unusual fire/explosion hazards** : Not available.
- Hazardous thermal (de)composition products** : Not applicable.
- Special fire-fighting procedures** : Fire fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear.
- Protection of fire-fighters** : Not applicable.

6. Accidental release measures

- Personal precautions** : Splash goggles. Full suit. Boots. Gloves. Suggested protective clothing might not be sufficient; consult a specialist before handling this product.
- Environmental Precautions and Clean-up Methods** : Absorb with an inert material and put the spilled material in an appropriate waste disposal. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system.

Note: See section 8 for personal protective equipment and section 13 for waste disposal.

7. Handling and storage

- Handling** : Avoid contact with eyes. Wear suitable protective clothing. If you feel unwell, seek medical attention and show the label when possible. Keep away from incompatibles such as oxidizing agents.
- Storage** : Keep container tightly closed. Keep container in a cool, well-ventilated area. Preferred storage temperature is 4°C.
- Germany - Storage Code** : Not available.

8. Exposure controls/personal protection

- Engineering measures** : Good general ventilation should be sufficient to control airborne levels.
- Hygiene measures** : Wash hands after handling compounds and before eating, smoking, using lavatory, and at the end of day.

<u>Ingredient Name</u>	<u>Occupational Exposure Limits</u>
United States	
1) No hazardous ingredients.	
Germany	
1) No hazardous ingredients.	
United Kingdom (UK)	
1) No hazardous ingredients.	
Japan	
1) No hazardous ingredients.	
Canada	
1) No hazardous ingredients.	

- Recommended monitoring procedures** : Not available.

Personal protective equipment

- Skin and body** : Lab coat.
- Hands** : Gloves.
- Eyes** : Safety glasses.

9. Physical and chemical properties

Physical state	: Liquid.
Color	: Colorless.
Odor	: Obnoxious.
pH	: Neutral.
Boiling Point	: The lowest known value is 100°C (212°F) (Water).
Melting Point	: May start to solidify at 0°C (32°F) based on data for: Water.
Flash point	: Not applicable.
Explosive properties	: Risks of explosion of the product in presence of mechanical impact: Not applicable. Risks of explosion of the product in presence of static discharge: Not applicable.
Density	: The only known value is 1 (Water = 1) (Water).
Solubility	: Easily soluble in cold water, hot water, methanol, acetone.

10. Stability and reactivity

Stability	: The product is stable at room temperature.
Conditions to avoid	: Avoid long-period storage at room temperature. The product is unstable at a temperature above 37°C. See Section 7 for storage conditions.
Materials to avoid	: Reactive with oxidizing agents.
Hazardous Decomposition Products	: Not applicable.

11. Toxicological information

Acute toxicity

<u>Ingredient Name</u>	<u>Test</u>	<u>Result</u>	<u>Route</u>	<u>Species</u>
No hazardous ingredients.				

Skin irritation : Non-irritant for skin.

Eye irritation : Hazardous in case of eye contact (irritant).

Sensitization : Non-sensitizer for skin. Non-sensitizer for lungs.

Chronic toxicity

: Repeated or prolonged exposure is not known to aggravate medical condition.

Carcinogenic Effects : Not available.

Mutagenic Effects : Not available.

Reproduction toxicity : Not available.

Developmental and Teratogenic Effects : Not available.

12. Ecological information

Ecotoxicity Data

<u>Ingredient Name</u>	<u>Species</u>	<u>Period</u>	<u>Result</u>
No hazardous ingredients.			

Mobility : Not available.

Persistence/degradability : Not available.

Bioaccumulative potential : Not available.

Soil/Water Partition Coefficient (K_{ow}) : Not available.

13. Disposal considerations

Methods of disposal : Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Waste Classification : Not applicable.

European Waste Catalogue (EWC) : Not available.

Hazardous Waste : To present knowledge of the supplier, this product is not regarded as hazardous waste as defined by EU Directive 94/904/EC.

14. Transport information

International transport regulations

Cell Lysis Reagent

Regulatory Information

Classification

DOT (United States)	Not regulated.
ADR/RID (Europe)	Not regulated.
ADN (Europe)	Not regulated.
Road Law (Japan)	Not regulated.
TDG (Canada)	Not regulated.
IATA-DGR	Not regulated.
IMDG	Not regulated.

15. Regulatory information

HCS (United States) : Not controlled under the HCS (United States).

U.S. Federal Regulations : TSCA 8(b) inventory: Components listed.
SARA 302/304/311/312 extremely hazardous substances: No ingredient was found.
SARA 302/304 emergency planning and notification: No ingredient was found.
SARA 302/304/311/312 hazardous chemicals: No ingredient was found.
SARA 311/312 MSDS distribution - chemical inventory - hazard identification: No ingredient was found.
SARA 313 toxic chemical notification and release reporting: No ingredient was found.
Clean Water Act (CWA) 307: No ingredient was found.
Clean Water Act (CWA) 311: No ingredient was found.
Clean Air Act (CAA) 112 accidental release prevention: No ingredient was found.
Clean Air Act (CAA) 112 regulated flammable substances: No ingredient was found.
Clean Air Act (CAA) 112 regulated toxic substances: No ingredient was found.

State Regulations :
California Prop. 65: No ingredient was found.

EU Regulations

Risk Phrases : This product is not classified according to the EU regulations.
Safety Phrases : Not applicable.
Contains : No hazardous ingredients at or above concentration to be considered.
Product Use : Classification and labeling have been performed according to EU directives 67/548/EEC, 88/379/EEC including amendments and the intended use.
- Consumer applications.

National regulations

Germany

Employment restrictions in accordance with § 15b of the Hazardous Substance Ordinance : No.
Hazardous Incident Ordinance : No.
Ordinance on Combustible Liquids : Class: Omitted
Hazard class for water (GWK) : 1

United Kingdom (UK)

VOC Content (Retail Use) : Not applicable.
VOC Content (Industrial Use) : Contains 0 wt% VOC.

Japan Control Laws : Does not contain any ingredient listed in Japan as hazardous and present at a concentration level to be considered.

WHMIS (Canada) : Not controlled under WHMIS (Canada).
DSL/NDL: Components listed.

This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

16. Other information

US Label Requirements : USE WITH CARE.

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

Health	1
Fire Hazard	0
Reactivity	0
Personal Protection	A

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



Europe Label :

Japan Label : Does not contain any ingredient listed in Japan as hazardous and present at a concentration level to be considered.

WHMIS Label :

HISTORY

Date of printing : 4/1/2003.
Date of issue : 4/1/2003.
Date of Previous Issue : No Previous Validation.
Version : 1
Prepared by : Kemika XXI inc.

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.

SAFETY DATA SHEET



Column Activation and Wash Solution (Acidic)

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

Product name : Column Activation and Wash Solution (Acidic) **Manufacturer** : Norgen Biotek Corp.
344 Merritt St.
St. Catharines, Ontario
Canada L2T 1K6
Tel: (905) 227-8848
Fax: (905) 227-1061

Chemical product name : Not applicable. **Supplier** : Norgen Biotek Corp.
344 Merritt St.
St. Catharines, Ontario
Canada L2T 1K6
Tel: (905) 227-8848
Fax: (905) 227-1061

Synonyms : Not available. **Emergency telephone number** : Canada: CANUTEC-1-613-996-6666
US: CHEMTREC-1-800-424-9300

Chemical Formula : Not applicable.

Material Uses : Column activation and wash solution (Acidic).
Catalog#

10103, 10401, 10201, 10501, 10304, 10603, 17701, 17101, 17003

2. Composition / information on ingredients

Substance/Preparation : Preparation.

Chemical name	CAS No.	%	EC Number	Classification
United States 1) No hazardous ingredients.				
Germany 1) No hazardous ingredients. See Section 16 for the full text of the R Phrases declared above				
United Kingdom (UK) 1) No hazardous ingredients.				
Japan 1) No hazardous ingredients.				
Canada 1) No hazardous ingredients.				

This material is classified as non-hazardous under the United States OSHA regulation, the European DSD/DPD Directives and several countries specific requirements, in Japan and under the Canadian WHMIS regulation.

See Section 8 for Exposure Limits.
See Section 11 for Toxicological Data.
See Section 14 for UN Number.

3. Hazards identification

Physical State and Appearance : Liquid.

Emergency Overview : No specific hazard.
USE WITH CARE

Routes of Entry : Absorbed through skin. Eye contact. Ingestion.

The preparation is not classified as dangerous according to Directive 1999/45/EC and its amendments.

Classification in Europe : Not classified.

Effects and symptoms

Inhalation : Slightly hazardous in case of inhalation (lung irritant).
Skin Contact : Slightly hazardous in case of skin contact (irritant). Non-sensitizer for skin.
Eye Contact : Slightly hazardous in case of eye contact (irritant).
Aggravating conditions : Repeated or prolonged exposure is not known to aggravate medical condition.

4. First-aid measures

First-Aid measures

- Inhalation** : If inhaled, remove to fresh air. Get medical attention if symptoms appear.
- Ingestion** : Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately.
- Skin Contact** : Wash with soap and water. Get medical attention if irritation develops. Cold water may be used.
- Eye Contact** : Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 20 minutes. Cold water may be used. Get medical attention if irritation occurs.
- Notes to physician** : Not available.
- Protection of first-aiders** : Not available.

5. Fire-fighting measures

Extinguishing Media

- Suitable** : Use extinguishing media suitable for surrounding materials.
- Unsuitable** : Not available.
- Unusual fire/explosion hazards** : Not available.
- Hazardous thermal (de)composition products** : Not applicable.
- Special fire-fighting procedures** : Fire fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear.
- Protection of fire-fighters** : Not applicable.

6. Accidental release measures

- Personal precautions** : Splash goggles. Full suit. Boots. Gloves. Suggested protective clothing might not be sufficient; consult a specialist before handling this product.
- Environmental Precautions and Clean-up Methods** : Absorb with an inert material and put the spilled material in an appropriate waste disposal. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system.

Note: See section 8 for personal protective equipment and section 13 for waste disposal.

7. Handling and storage

- Handling** : Avoid contact with eyes. Wear suitable protective clothing. If you feel unwell, seek medical attention and show the label when possible. Keep away from incompatibles such as oxidizing agents.
- Storage** : Keep container tightly closed. Keep container in a cool, well-ventilated area. Preferred storage condition is room temperature. For long-term storage keep at 4°C.
- Germany - Storage Code** : Not available.

8. Exposure controls/personal protection

- Engineering measures** : Good general ventilation should be sufficient to control airborne levels.
- Hygiene measures** : Wash hands after handling compounds and before eating, smoking, using lavatory, and at the end of day.

<u>Ingredient Name</u>	<u>Occupational Exposure Limits</u>
United States	
1) No hazardous ingredients.	
Germany	
1) No hazardous ingredients.	
United Kingdom (UK)	
1) No hazardous ingredients.	
Japan	
1) No hazardous ingredients.	
Canada	
1) No hazardous ingredients.	

- Recommended monitoring procedures** : Not available.

Personal protective equipment

- Respiratory system** : Vapor respirator. Be sure to use an approved/certified respirator or equivalent.
- Skin and body** : Lab coat.
- Hands** : Gloves.
- Eyes** : Safety glasses.

9. Physical and chemical properties

Physical state	: Liquid.
Color	: Colorless.
Odor	: Odorless.
pH	: 4 to 6 [Acidic.]
Boiling Point	: The lowest known value is 100°C (212°F) (Water).
Melting Point	: May start to solidify at 0°C (32°F) based on data for: Water.
Flash point	: Not applicable.
Explosive properties	: Risks of explosion of the product in presence of mechanical impact: Not applicable. Risks of explosion of the product in presence of static discharge: Not applicable.
Density	: The only known value is 1 (Water = 1) (Water).
Solubility	: Easily soluble in cold water, hot water, methanol, acetone. Insoluble in diethyl ether.

10. Stability and reactivity

Stability	: The product is stable at room temperature.
Conditions to avoid	: The product is unstable at a temperature below 4°C and above 100°C. See Section 7 for storage conditions.
Materials to avoid	: Reactive with oxidizing agents, alkalis.
Hazardous Decomposition Products	: Not applicable.

11. Toxicological information

Acute toxicity

<u>Ingredient Name</u>	<u>Test</u>	<u>Result</u>	<u>Route</u>	<u>Species</u>
No hazardous ingredients.				

Skin irritation	: Non-irritant for skin.
Eye irritation	: Hazardous in case of eye contact (irritant).

Sensitization	: Non-sensitizer for skin.
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Chronic toxicity

: Repeated or prolonged exposure is not known to aggravate medical condition.

Carcinogenic Effects	: Not available.
Mutagenic Effects	: Not available.
Reproduction toxicity	: Not available.
Developmental and Teratogenic Effects	: Not available.

12. Ecological information

Ecotoxicity Data

<u>Ingredient Name</u>	<u>Species</u>	<u>Period</u>	<u>Result</u>
No hazardous ingredients.			

Mobility	: Not available.
Persistence/degradability	: Not available.
Bioaccumulative potential	: Not available.
Soil/Water Partition Coefficient (K _{oc})	: Not available.

13. Disposal considerations

Methods of disposal	: Waste must be disposed of in accordance with federal, state and local environmental control regulations.
Waste Classification	: Not applicable.
European Waste Catalogue (EWC)	: Not available.
Hazardous Waste	: To present knowledge of the supplier, this product is not regarded as hazardous waste as defined by EU Directive 94/904/EC.

14. Transport information

International transport regulations

Column Activation and Wash Solution (Acidic)

Regulatory Information	Classification
DOT (United States)	Not regulated.
ADR/RID (Europe)	Not regulated.
ADN (Europe)	Not regulated.
Road Law (Japan)	Not regulated.
TDG (Canada)	Not regulated.
IATA-DGR	Not regulated.
IMDG	Not regulated.

15. Regulatory information

HCS (United States) : Not controlled under the HCS (United States).

U.S. Federal Regulations : TSCA 8(b) inventory: Components listed.
SARA 302/304/311/312 extremely hazardous substances: No ingredient was found.
SARA 302/304 emergency planning and notification: No ingredient was found.
SARA 302/304/311/312 hazardous chemicals: No ingredient was found.
SARA 311/312 MSDS distribution - chemical inventory - hazard identification: No ingredient was found.
SARA 313 toxic chemical notification and release reporting: No ingredient was found.
Clean Water Act (CWA) 307: No ingredient was found.
Clean Water Act (CWA) 311: No ingredient was found.
Clean Air Act (CAA) 112 accidental release prevention: No ingredient was found.
Clean Air Act (CAA) 112 regulated flammable substances: No ingredient was found.
Clean Air Act (CAA) 112 regulated toxic substances: No ingredient was found.

State Regulations :
California Prop. 65: No ingredient was found.

EU Regulations

Risk Phrases : This product is not classified according to the EU regulations.
Safety Phrases : Not applicable.
Contains : No hazardous ingredients at or above concentration to be considered.
Product Use : Classification and labeling have been performed according to EU directives 67/548/EEC, 88/379/EEC including amendments and the intended use.
- Consumer applications.

National regulations

Germany

Employment restrictions in accordance with § 15b of the Hazardous Substance Ordinance : No.
Hazardous Incident Ordinance : No.
Ordinance on Combustible Liquids : Class: Omitted
Hazard class for water (GWK) : 1

United Kingdom (UK)

VOC Content (Retail Use) : Not applicable.
VOC Content (Industrial Use) : Contains 0 wt% VOC.

Japan Control Laws : Sodium acetate solution are listed on the Japan Marine Pollution Disaster Law. Ministerial Implementation Ordinance Harmful Liquids (in bulk) Class D. Revised July 20, 1996, implemented 1971.

WHMIS (Canada) : Not controlled under WHMIS (Canada).
DSL/NDSL: Components listed.

This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

16. Other information

US Label Requirements : USE WITH CARE

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

Health	1
Fire Hazard	0
Reactivity	0
Personal Protection	G

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



Europe Label :

Japan Label : Sodium acetate solution are listed on the Japan Marine Pollution Disaster Law. Ministerial Implementation Ordinance Hamful Liquids (in bulk) Class D. Revised July 20, 1996, implemented 1971.

WHMIS Label :

HISTORY

Date of printing : 3/26/2003.
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Prepared by : Kemika XXI inc.

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.

SAFETY DATA SHEET



Column Activation and Wash Solution (Basic)

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

Product name : Column Activation and Wash Solution (Basic) **Manufacturer** : Norgen Biotek Corp.
344 Merritt St.
St. Catharines, Ontario
Canada L2T 1K6
Tel: (905) 227-8848
Fax: (905) 227-1061

Chemical product name : Not applicable. **Supplier** : Norgen Biotek Corp.
344 Merritt St.
St. Catharines, Ontario
Canada L2T 1K6
Tel: (905) 227-8848
Fax: (905) 227-1061

Material Uses : Column activation and wash solution (Basic).

Synonyms : Not available. **Emergency telephone number** : Canada: CANUTEC-1-613-996-6666
US: CHEMTREC-1-800-424-9300

Chemical Formula : Not applicable.

Catalog#
10104, 10402, 10202, 10502, 10305, 10604, 17004, 17102, 17702

2. Composition / information on ingredients

Substance/Preparation : Preparation.

Chemical name	CAS No.	%	EC Number	Classification
United States 1) No hazardous ingredients.				
Germany 1) No hazardous ingredients. See Section 16 for the full text of the R Phrases declared above				
United Kingdom (UK) 1) No hazardous ingredients.				
Japan 1) No hazardous ingredients.				
Canada 1) No hazardous ingredients.				

This material is classified as non-hazardous under the United States OSHA regulation, the European DSD/DPD Directives and several countries specific requirements, in Japan and under the Canadian WHMIS regulation.

See Section 8 for Exposure Limits.
See Section 11 for Toxicological Data.
See Section 14 for UN Number.

3. Hazards identification

Physical State and Appearance : Liquid.

Emergency Overview : No specific hazard.
USE WITH CARE
Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Keep container closed. Use with adequate ventilation. Wash thoroughly after handling.

Routes of Entry : Absorbed through skin. Eye contact. Inhalation.
The preparation is not classified as dangerous according to Directive 1999/45/EC and its amendments.

Classification in Europe : Not classified.

Effects and symptoms

Inhalation : Hazardous in case of inhalation (lung irritant).

Skin Contact : Slightly hazardous in case of skin contact (irritant). Non-sensitizer for skin.

Eye Contact : Hazardous in case of eye contact (irritant).

Aggravating conditions : Repeated or prolonged exposure is not known to aggravate medical condition.

4. First-aid measures

First-Aid measures

- Inhalation** : If inhaled, remove to fresh air. Get medical attention if symptoms appear.
- Ingestion** : Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately.
- Skin Contact** : Wash with soap and water. Get medical attention if irritation develops. Cold water may be used.
- Eye Contact** : Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 20 minutes. Cold water may be used. Get medical attention.
- Notes to physician** : Not available.
- Protection of first-aiders** : Not available.

5. Fire-fighting measures

Extinguishing Media

- Suitable** : Use extinguishing media suitable for surrounding materials.
- Unsuitable** : Not available.
- Unusual fire/explosion hazards** : Not available.
- Hazardous thermal (de)composition products** : Not applicable.
- Special fire-fighting procedures** : Fire fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear.
- Protection of fire-fighters** : Not applicable.

6. Accidental release measures

- Personal precautions** : Splash goggles. Full suit. Boots. Gloves. Suggested protective clothing might not be sufficient; consult a specialist before handling this product.
- Environmental Precautions and Clean-up Methods** : Absorb with an inert material and put the spilled material in an appropriate waste disposal. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system.

Note: See section 8 for personal protective equipment and section 13 for waste disposal.

7. Handling and storage

- Handling** : Avoid contact with eyes. Wear suitable protective clothing. If you feel unwell, seek medical attention and show the label when possible. Keep away from incompatibles such as oxidizing agents.
- Storage** : Keep container tightly closed. Keep container in a cool, well-ventilated area. Preferred storage condition is room temperature. For long-term storage keep at 4°C.
- Germany - Storage Code** : Not available.

8. Exposure controls/personal protection

- Engineering measures** : Good general ventilation should be sufficient to control airborne levels.
- Hygiene measures** : Wash hands after handling compounds and before eating, smoking, using lavatory, and at the end of day.

<u>Ingredient Name</u>	<u>Occupational Exposure Limits</u>
United States	
1) No hazardous ingredients.	
Germany	
1) No hazardous ingredients.	
United Kingdom (UK)	
1) No hazardous ingredients.	
Japan	
1) No hazardous ingredients.	
Canada	
1) No hazardous ingredients.	

- Recommended monitoring procedures** : Not available.

Personal protective equipment

- Respiratory system** : Vapor respirator. Be sure to use an approved/certified respirator or equivalent.
- Skin and body** : Lab coat.
- Hands** : Gloves.
- Eyes** : Splash goggles.

9. Physical and chemical properties

- Physical state** : Liquid.
- Color** : Colorless.
- Odor** : Odorless.
- pH** : 7 to 9 [Basic.]
- Boiling Point** : The lowest known value is 100°C (212°F) (Water).
- Melting Point** : May start to solidify at 0°C (32°F) based on data for: Water.
- Flash point** : Not applicable.
- Explosive properties** : Risks of explosion of the product in presence of mechanical impact: Not applicable.
Risks of explosion of the product in presence of static discharge: Not applicable.
- Density** : The only known value is 1 (Water = 1) (Water).
- Solubility** : Easily soluble in cold water, hot water, methanol, acetone.

10. Stability and reactivity

- Stability** : The product is stable at room temperature.
- Conditions to avoid** : The product is unstable at a temperature below 4°C and above 100°C. See Section 7 for storage conditions.
- Materials to avoid** : Reactive with oxidizing agents, alkalis.
- Hazardous Decomposition Products** : Not applicable.

11. Toxicological information

Acute toxicity

<u>Ingredient Name</u>	<u>Test</u>	<u>Result</u>	<u>Route</u>	<u>Species</u>
No hazardous ingredients.				

- Skin irritation** : Non-irritant for skin.
- Eye irritation** : Hazardous in case of eye contact (irritant).

- Sensitization** : Non-sensitizer for skin.

- Chronic toxicity** : Repeated or prolonged exposure is not known to aggravate medical condition.

- Carcinogenic Effects** : Not available.
- Mutagenic Effects** : Not available.
- Reproduction toxicity** : Not available.
- Developmental and Teratogenic Effects** : Not available.

12. Ecological information

Ecotoxicity Data

<u>Ingredient Name</u>	<u>Species</u>	<u>Period</u>	<u>Result</u>
No hazardous ingredients.			

- Mobility** : Not available.
- Persistence/degradability** : Not available.
- Bioaccumulative potential** : Not available.
- Soil/Water Partition Coefficient (K_{oc})** : Not available.

13. Disposal considerations

- Methods of disposal** : Waste must be disposed of in accordance with federal, state and local environmental control regulations.
- Waste Classification** : Not applicable.
- European Waste Catalogue (EWC)** : Not available.
- Hazardous Waste** : To present knowledge of the supplier, this product is not regarded as hazardous waste as defined by EU Directive 94/904/EC.

14. Transport information

International transport regulations

Column Activation and Wash Solution (Basic)

Regulatory Information	Classification
DOT (United States)	Not regulated.
ADR/RID (Europe)	Not regulated.
ADN (Europe)	Not regulated.
Road Law (Japan)	Not regulated.
TDG (Canada)	Not regulated.
IATA-DGR	Not regulated.
IMDG	Not regulated.

15. Regulatory information

HCS (United States) : Not controlled under the HCS (United States).

U.S. Federal Regulations : TSCA 8(b) inventory: Components listed.
SARA 302/304/311/312 extremely hazardous substances: No ingredient was found.
SARA 302/304 emergency planning and notification: No ingredient was found.
SARA 302/304/311/312 hazardous chemicals: No ingredient was found.
SARA 311/312 MSDS distribution - chemical inventory - hazard identification: No ingredient was found.
SARA 313 toxic chemical notification and release reporting: No ingredient was found.
Clean Water Act (CWA) 307: No ingredient was found.
Clean Water Act (CWA) 311: No ingredient was found.
Clean Air Act (CAA) 112 accidental release prevention: No ingredient was found.
Clean Air Act (CAA) 112 regulated flammable substances: No ingredient was found.
Clean Air Act (CAA) 112 regulated toxic substances: No ingredient was found.

State Regulations :
California Prop. 65: No ingredient was found.

EU Regulations

Risk Phrases : This product is not classified according to the EU regulations.
Safety Phrases : Not applicable.
Contains : No hazardous ingredients at or above concentration to be considered.
Product Use : Classification and labeling have been performed according to EU directives 67/548/EEC, 88/379/EEC including amendments and the intended use.
- Consumer applications.

National regulations

Germany

Employment restrictions in accordance with § 15b of the Hazardous Substance Ordinance : No.
Hazardous Incident Ordinance : No.
Ordinance on Combustible Liquids : Class: Omitted
Hazard class for water (GWK) : 1

United Kingdom (UK)

VOC Content (Retail Use) : Not applicable.
VOC Content (Industrial Use) : Contains 0 wt% VOC.

Japan Control Laws : This product does not contain hazardous ingredient at a concentration level for which a declaration is needed.

WHMIS (Canada) : Not controlled under WHMIS (Canada).
DSL/NDL: Components listed.

This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

16. Other information

US Label Requirements : USE WITH CARE

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

Health	1
Fire Hazard	0
Reactivity	0
Personal Protection	H

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



Europe Label :

Japan Label : This product does not contain hazardous ingredient at a concentration level for which a declaration is needed.

WHMIS Label :

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SAFETY DATA SHEET



Elution Buffer

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

Product name : Elution Buffer **Manufacturer** : Norgen Biotek Corp.
344 Merritt St.
St. Catharines, Ontario
Canada L2T 1K6
Tel: (905) 227-8848
Fax: (905) 227-1061

Chemical product name : Not applicable. **Supplier** : Norgen Biotek Corp.
344 Merritt St.
St. Catharines, Ontario
Canada L2T 1K6
Tel: (905) 227-8848
Fax: (905) 227-1061

Material Uses : Elution buffer.

Synonyms : Not available. **Emergency telephone number** : Canada: CANUTEC-1-613-996-6666
US: CHEMTREC-1-800-424-9300

Chemical Formula : Not applicable.

Catalog#

10107, 10405, 10205, 10505, 10308, 10607, 17007, 17105, 17705

2. Composition / information on ingredients

Substance/Preparation : Preparation.

Chemical name	CAS No.	%	EC Number	Classification
United States 1) No hazardous ingredients.				
Germany 1) No hazardous ingredients. See Section 16 for the full text of the R Phrases declared above				
United Kingdom (UK) 1) No hazardous ingredients.				
Japan 1) No hazardous ingredients.				
Canada 1) No hazardous ingredients.				

This material is classified as non-hazardous under the United States OSHA regulation, the European DSD/DPD Directives and several countries specific requirements, in Japan and under the Canadian WHMIS regulation.

See Section 8 for Exposure Limits.
See Section 11 for Toxicological Data.
See Section 14 for UN Number.

3. Hazards identification

Physical State and Appearance : Liquid.

Emergency Overview : No specific hazard.
USE WITH CARE
Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Keep container closed. Use with adequate ventilation. Wash thoroughly after handling.

Routes of Entry : Absorbed through skin. Eye contact. Inhalation.
The preparation is not classified as dangerous according to Directive 1999/45/EC and its amendments.

Classification in Europe : Not classified.

Effects and symptoms

Inhalation : Slightly hazardous in case of inhalation (lung irritant).

Skin Contact : Slightly hazardous in case of skin contact (irritant). Non-sensitizer for skin.

Eye Contact : Slightly hazardous in case of eye contact (irritant).

Aggravating conditions : Repeated or prolonged exposure is not known to aggravate medical condition.

Date of issue : 3/26/2003.

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4. First-aid measures

First-Aid measures

- Inhalation** : If inhaled, remove to fresh air. Get medical attention if symptoms appear.
- Ingestion** : Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately.
- Skin Contact** : Wash with soap and water. Get medical attention if irritation develops. Cold water may be used.
- Eye Contact** : Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 20 minutes. Cold water may be used. Get medical attention.
- Notes to physician** : Not available.
- Protection of first-aiders** : Not available.

5. Fire-fighting measures

Extinguishing Media

- Suitable** : Use extinguishing media suitable for surrounding materials.
- Unsuitable** : Not available.
- Unusual fire/explosion hazards** : Not available.
- Hazardous thermal (de)composition products** : Not applicable.
- Special fire-fighting procedures** : Fire fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear.
- Protection of fire-fighters** : Not applicable.

6. Accidental release measures

- Personal precautions** : Splash goggles. Full suit. Boots. Gloves. Suggested protective clothing might not be sufficient; consult a specialist before handling this product.
- Environmental Precautions and Clean-up Methods** : Absorb with an inert material and put the spilled material in an appropriate waste disposal. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system.

Note: See section 8 for personal protective equipment and section 13 for waste disposal.

7. Handling and storage

- Handling** : Avoid contact with eyes. Wear suitable protective clothing. If you feel unwell, seek medical attention and show the label when possible. Keep away from incompatibles such as oxidizing agents.
- Storage** : Keep container tightly closed. Keep container in a cool, well-ventilated area. Preferred storage condition is room temperature. For long-term storage keep at 4°C.
- Germany - Storage Code** : Not available.

8. Exposure controls/personal protection

- Engineering measures** : Good general ventilation should be sufficient to control airborne levels.
- Hygiene measures** : Wash hands after handling compounds and before eating, smoking, using lavatory, and at the end of day.

<u>Ingredient Name</u>	<u>Occupational Exposure Limits</u>
United States	
1) No hazardous ingredients.	
Germany	
1) No hazardous ingredients.	
United Kingdom (UK)	
1) No hazardous ingredients.	
Japan	
1) No hazardous ingredients.	
Canada	
1) No hazardous ingredients.	

- Recommended monitoring procedures** : Not available.

Personal protective equipment

- Respiratory system** : Vapor respirator. Be sure to use an approved/certified respirator or equivalent.
- Skin and body** : Lab coat.
- Hands** : Gloves.
- Eyes** : Splash goggles.

9. Physical and chemical properties

Physical state	: Liquid.
Color	: Colorless.
Odor	: Odorless.
pH	: 10 to 13 [Basic.]
Boiling Point	: The lowest known value is 100°C (212°F) (Water).
Melting Point	: May start to solidify at 0°C (32°F) based on data for: Water.
Flash point	: Not applicable.
Explosive properties	: Risks of explosion of the product in presence of mechanical impact: Not applicable. Risks of explosion of the product in presence of static discharge: Not applicable.
Density	: The only known value is 1 (Water = 1) (Water).
Solubility	: Easily soluble in cold water, hot water, methanol, acetone.

10. Stability and reactivity

Stability	: The product is stable at room temperature.
Conditions to avoid	: The product is unstable at a temperature below 4°C and above 100°C. See Section 7 for storage conditions.
Materials to avoid	: Reactive with oxidizing agents, acids.
Hazardous Decomposition Products	: Not applicable.

11. Toxicological information

Acute toxicity

<u>Ingredient Name</u>	<u>Test</u>	<u>Result</u>	<u>Route</u>	<u>Species</u>
No hazardous ingredients.				

Skin irritation	: Non-irritant for skin.
Eye irritation	: Slightly hazardous in case of eye contact (irritant).
Sensitization	: Non-sensitizer for skin.

Chronic toxicity

: Repeated or prolonged exposure is not known to aggravate medical condition.	
Carcinogenic Effects	: Not available.
Mutagenic Effects	: Not available.
Reproduction toxicity	: Not available.
Developmental and Teratogenic Effects	: Not available.

12. Ecological information

Ecotoxicity Data

<u>Ingredient Name</u>	<u>Species</u>	<u>Period</u>	<u>Result</u>
No hazardous ingredients.			

Mobility	: Not available.
Persistence/degradability	: Not available.
Bioaccumulative potential	: Not available.
Soil/Water Partition Coefficient (K_{oc})	: Not available.

13. Disposal considerations

Methods of disposal	: Waste must be disposed of in accordance with federal, state and local environmental control regulations.
Waste Classification	: Not applicable.
European Waste Catalogue (EWC)	: Not available.
Hazardous Waste	: To present knowledge of the supplier, this product is not regarded as hazardous waste as defined by EU Directive 94/904/EC.

14. Transport information

International transport regulations

Elution Buffer

Regulatory Information	Classification
DOT (United States)	Not regulated.
ADR/RID (Europe)	Not regulated.
ADN (Europe)	Not regulated.
Road Law (Japan)	Not regulated.
TDG (Canada)	Not regulated.
IATA-DGR	Not regulated.
IMDG	Not regulated.

15. Regulatory information

HCS (United States) : Not controlled under the HCS (United States).

U.S. Federal Regulations : TSCA 8(b) inventory: Components listed.
SARA 302/304/311/312 extremely hazardous substances: No ingredient was found.
SARA 302/304 emergency planning and notification: No ingredient was found.
SARA 302/304/311/312 hazardous chemicals: No ingredient was found.
SARA 311/312 MSDS distribution - chemical inventory - hazard identification: No ingredient was found.
SARA 313 toxic chemical notification and release reporting: No ingredient was found.
Clean Water Act (CWA) 307: No ingredient was found.
Clean Water Act (CWA) 311: No ingredient was found.
Clean Air Act (CAA) 112 accidental release prevention: No ingredient was found.
Clean Air Act (CAA) 112 regulated flammable substances: No ingredient was found.
Clean Air Act (CAA) 112 regulated toxic substances: No ingredient was found.

State Regulations :
California Prop. 65: No ingredient was found.

EU Regulations

Risk Phrases : This product is not classified according to the EU regulations.
Safety Phrases : Not applicable.
Contains : No hazardous ingredients at or above concentration to be considered.
Product Use : Classification and labeling have been performed according to EU directives 67/548/EEC, 88/379/EEC including amendments and the intended use.
- Consumer applications.

National regulations

Germany

Employment restrictions in accordance with § 15b of the Hazardous Substance Ordinance : No.
Hazardous Incident Ordinance : No.
Ordinance on Combustible Liquids : Class: Omitted
Hazard class for water (GWK) : 1

United Kingdom (UK)

VOC Content (Retail Use) : Not applicable.
VOC Content (Industrial Use) : Contains 0 wt% VOC.

Japan Control Laws : This product does not contain hazardous ingredient at a concentration level for which a declaration is needed.

WHMIS (Canada) : Not controlled under WHMIS (Canada).
DSL/NDL: Components listed.

This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

16. Other information

US Label Requirements : USE WITH CARE

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

Health	1
Fire Hazard	0
Reactivity	0
Personal Protection	H

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



Europe Label :

Japan Label : This product does not contain hazardous ingredient at a concentration level for which a declaration is needed.

WHMIS Label :

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Prepared by : Kemika XXI inc.

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SAFETY DATA SHEET



IB Solubilization Reagent

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

Product name : IB Solubilization Reagent **Manufacturer** : Norgen Biotek Corp.
344 Merritt St.
St. Catharines, Ontario
Canada L2T 1K6
Tel: (905) 227-8848
Fax: (905) 227-1061

Chemical product name : Not applicable. **Supplier** : Norgen Biotek Corp.
344 Merritt St.
St. Catharines, Ontario
Canada L2T 1K6
Tel: (905) 227-8848
Fax: (905) 227-1061

Synonyms : Not available. **Emergency telephone number** : Canada: CANUTEC-1-613-996-6666
US: CHEMTREC-1-800-424-9300

Chemical Formula : Not applicable.

Material Uses : Not available.

Catalog#
10311, 10610, 17708

2. Composition / information on ingredients

Substance/Preparation : Preparation.

Chemical name	CAS No.	%	EC Number	Classification
United States				
1) Pyridinium, 1-(3-Sulfopropyl)-, Hydroxide	15471-17-7	7-10	239-491-3	Not available.
Germany				
1) Pyridinium, 1-(3-Sulfopropyl)-, Hydroxide	15471-17-7	7-10	239-491-3	Xi; R36/37/38
See Section 16 for the full text of the R Phrases declared above				
United Kingdom (UK)				
1) Pyridinium, 1-(3-Sulfopropyl)-, Hydroxide	15471-17-7	7-10	239-491-3	Xi; R36/37/38
Japan				
1) Pyridinium, 1-(3-Sulfopropyl)-, Hydroxide	15471-17-7	7-10	239-491-3	Not available.
Canada				
1) Pyridinium, 1-(3-Sulfopropyl)-, Hydroxide	15471-17-7	7-10	239-491-3	Not available.

This material is classified as hazardous under the United States OSHA regulation, the European DSD/DPD Directives and several countries specific requirements, in Japan and under the Canadian WHMIS regulation.

See Section 8 for Exposure Limits.
See Section 11 for Toxicological Data.
See Section 14 for UN Number.

3. Hazards identification

Physical State and Appearance : Liquid.

Emergency Overview : CAUTION!
MAY CAUSE RESPIRATORY TRACT, EYE AND SKIN IRRITATION.
Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Keep container closed. Use with adequate ventilation. Wash thoroughly after handling.

Routes of Entry : Absorbed through skin. Eye contact. Inhalation.
The preparation is not classified as dangerous according to Directive 1999/45/EC and its amendments.

Classification in Europe : Not classified.

Effects and symptoms

Inhalation : Hazardous in case of inhalation (lung irritant).

Skin Contact : Hazardous in case of skin contact (irritant). Non-sensitizer for skin.

Eye Contact : Hazardous in case of eye contact (irritant).

Aggravating conditions : Repeated or prolonged exposure is not known to aggravate medical condition.

4. First-aid measuresFirst-Aid measures

- Inhalation** : If inhaled, remove to fresh air. Get medical attention if symptoms appear.
- Ingestion** : Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately.
- Skin Contact** : In case of contact, immediately flush skin with plenty of water. Cover the irritated skin with an emollient. Remove contaminated clothing and shoes. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.
- Eye Contact** : Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 20 minutes. Cold water may be used. Get medical attention.
- Notes to physician** : Not available.
- Protection of first-aiders** : Not available.

5. Fire-fighting measuresExtinguishing Media

- Suitable** : Use extinguishing media suitable for surrounding materials.
- Unsuitable** : Not available.
- Unusual fire/explosion hazards** : Not available.
- Hazardous thermal (de)composition products** : Not applicable.
- Special fire-fighting procedures** : Fire fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear.
- Protection of fire-fighters** : Not applicable.

6. Accidental release measures

- Personal precautions** : Splash goggles. Full suit. Boots. Gloves. Suggested protective clothing might not be sufficient; consult a specialist before handling this product.
- Environmental Precautions and Clean-up Methods** : Absorb with an inert material and put the spilled material in an appropriate waste disposal. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system.

Note: See section 8 for personal protective equipment and section 13 for waste disposal.

7. Handling and storage

- Handling** : Avoid contact with eyes. Wear suitable protective clothing. If you feel unwell, seek medical attention and show the label when possible. Keep away from incompatibles such as oxidizing agents.
- Storage** : Keep container tightly closed. Keep container in a cool, well-ventilated area.
- Germany - Storage Code** : Not available.

8. Exposure controls/personal protection

- Engineering measures** : Good general ventilation should be sufficient to control airborne levels.
- Hygiene measures** : Wash hands after handling compounds and before eating, smoking, using lavatory, and at the end of day.

<u>Ingredient Name</u>	<u>Occupational Exposure Limits</u>
United States	
1) Pyridinium, 1-(3-Sulfopropyl)-, Hydroxide	Not available.
Germany	
1) Pyridinium, 1-(3-Sulfopropyl)-, Hydroxide	Not available.
United Kingdom (UK)	
1) Pyridinium, 1-(3-Sulfopropyl)-, Hydroxide	Not available.
Japan	
1) Pyridinium, 1-(3-Sulfopropyl)-, Hydroxide	Not available.
Canada	
1) Pyridinium, 1-(3-Sulfopropyl)-, Hydroxide	Not available.

- Recommended monitoring procedures** : Not available.

Personal protective equipment

- Respiratory system** : Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.
- Skin and body** : Lab coat.
- Hands** : Gloves.
- Eyes** : Splash goggles.

9. Physical and chemical properties

Physical state	: Liquid.
Color	: Colorless.
Odor	: Odorless.
pH	: 8.5 to 9.5 [Basic.]
Boiling Point	: The lowest known value is 100°C (212°F) (Water).
Melting Point	: May start to solidify at 0°C (32°F) based on data for: Water.
Flash point	: Not applicable.
Explosive properties	: Risks of explosion of the product in presence of mechanical impact: Not applicable. Risks of explosion of the product in presence of static discharge: Not applicable.
Density	: The only known value is 1 (Water = 1) (Water).
Solubility	: Easily soluble in cold water, hot water, methanol, acetone.

10. Stability and reactivity

Stability	: The product is stable at room temperature.
Conditions to avoid	: The product is unstable at a temperature above 37°C. See Section 7 for storage conditions.
Materials to avoid	: Slightly reactive to reactive with oxidizing agents, acids.
Hazardous Decomposition Products	: Not applicable.

11. Toxicological information

Acute toxicity

<u>Ingredient Name</u>	<u>Test</u>	<u>Result</u>	<u>Route</u>	<u>Species</u>
Pyridinium, 1-(3-Sulfopropyl)-, Hydroxide	Not available.	Not available.	Not available.	Not available.

Skin irritation : Non-irritant for skin.

Eye irritation : Hazardous in case of eye contact (irritant).

Sensitization : Non-sensitizer for skin.

Chronic toxicity : Repeated or prolonged exposure is not known to aggravate medical condition.

Carcinogenic Effects : Not available.

Mutagenic Effects : Not available.

Reproduction toxicity : Not available.

Developmental and Teratogenic Effects : Not available.

12. Ecological information

Ecotoxicity Data

<u>Ingredient Name</u>	<u>Species</u>	<u>Period</u>	<u>Result</u>
Pyridinium, 1-(3-Sulfopropyl)-, Hydroxide	Not available.	Not available.	Not available.

Mobility : Not available.

Persistence/degradability : Not available.

Bioaccumulative potential : Not available.

Soil/Water Partition Coefficient (K_{oc}) : Not available.

13. Disposal considerations

Methods of disposal : Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Waste Classification : Not applicable.

European Waste Catalogue (EWC) : Not available.

Hazardous Waste : To present knowledge of the supplier, this product is not regarded as hazardous waste as defined by EU Directive 94/904/EC.

14. Transport information

International transport regulations

IB Solubilization Reagent**Regulatory Information****Classification**

DOT (United States)	Not regulated.
ADR/RID (Europe)	Not regulated.
ADN (Europe)	Not regulated.
Road Law (Japan)	Not regulated.
TDG (Canada)	Not regulated.
IATA-DGR	Not regulated.
IMDG	Not regulated.

15. Regulatory information

HCS (United States) : Class: Irritating substance.
U.S. Federal Regulations : TSCA 8(b) inventory: Components listed.
SARA 302/304/311/312 extremely hazardous substances: No ingredient was found.
SARA 302/304 emergency planning and notification: No ingredient was found.
SARA 302/304/311/312 hazardous chemicals: No ingredient was found.
SARA 311/312 MSDS distribution - chemical inventory - hazard identification: No ingredient was found.
SARA 313 toxic chemical notification and release reporting: No ingredient was found.
Clean Water Act (CWA) 307: No ingredient was found.
Clean Water Act (CWA) 311: No ingredient was found.
Clean Air Act (CAA) 112 accidental release prevention: No ingredient was found.
Clean Air Act (CAA) 112 regulated flammable substances: No ingredient was found.
Clean Air Act (CAA) 112 regulated toxic substances: No ingredient was found.

State Regulations :
California Prop. 65: No ingredient was found.

EU Regulations

Risk Phrases : This product is not classified according to the EU regulations.
Safety Phrases : Not applicable.
Contains : No hazardous ingredients at or above concentration to be considered.
Product Use : Classification and labeling have been performed according to EU directives 67/548/EEC, 88/379/EEC including amendments and the intended use.
- Consumer applications.

National regulations**Germany**

Ordinance on Combustible Liquids : Class: Omitted
Hazard class for water (GWK) : 3

United Kingdom (UK)

VOC Content (Retail Use) : Not applicable.
VOC Content (Industrial Use) : Contains 0 wt% VOC.

Japan Control Laws : Does not contain any ingredient listed in Japan as hazardous and present at a concentration level to be considered.

WHMIS (Canada) : Class D-2B: Material causing other toxic effects (TOXIC).
DSL/NDSL: Components listed.

This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

16. Other information

US Label Requirements : MAY CAUSE RESPIRATORY TRACT, EYE AND SKIN IRRITATION.

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

Health	1
Fire Hazard	0
Reactivity	0
Personal Protection	H

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



Europe Label :

Japan Label : Does not contain any ingredient listed in Japan as hazardous and present at a concentration level to be considered.

WHMIS Label :



HISTORY

Date of printing : 3/31/2003.
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Date of Previous Issue : No Previous Validation.
Version : 1
Prepared by : Kemika XXI inc.

Notice to Reader

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SAFETY DATA SHEET



Neutralizer

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

Product name : Neutralizer **Manufacturer** : Norgen Biotek Corp.
344 Merritt St.
St. Catharines, Ontario
Canada L2T 1K6
Tel: (905) 227-8848
Fax: (905) 227-1061

Chemical product name : Not applicable. **Supplier** : Norgen Biotek Corp.
344 Merritt St.
St. Catharines, Ontario
Canada L2T 1K6
Tel: (905) 227-8848
Fax: (905) 227-1061

Material Uses : Neutralizer.

Synonyms : Not available. **Emergency telephone number** : Canada: CANUTEC-1-613-996-6666
US: CHEMTREC-1-800-424-9300

Chemical Formula : Not applicable.

Catalog#

10108, 10406, 10206, 10506, 10309, 10608, 17106, 17008, 17706

2. Composition / information on ingredients

Substance/Preparation : Preparation.

Chemical name	CAS No.	%	EC Number	Classification
United States 1) No hazardous ingredients.				
Germany 1) No hazardous ingredients. See Section 16 for the full text of the R Phrases declared above				
United Kingdom (UK) 1) No hazardous ingredients.				
Japan 1) No hazardous ingredients.				
Canada 1) No hazardous ingredients.				

This material is classified as non-hazardous under the United States OSHA regulation, the European DSD/DPD Directives and several countries specific requirements, in Japan and under the Canadian WHMIS regulation.

See Section 8 for Exposure Limits.
See Section 11 for Toxicological Data.
See Section 14 for UN Number.

3. Hazards identification

Physical State and Appearance : Liquid.

Emergency Overview : No specific hazard.
USE WITH CARE.
Avoid breathing vapors or spray mists.

Routes of Entry : Absorbed through skin. Eye contact. Inhalation.

The preparation is not classified as dangerous according to Directive 1999/45/EC and its amendments.

Classification in Europe : Not classified.

Effects and symptoms

Inhalation : Slightly hazardous in case of inhalation (lung irritant).

Skin Contact : Slightly hazardous in case of skin contact (irritant). Non-sensitizer for skin.

Eye Contact : Slightly hazardous in case of eye contact (irritant).

Aggravating conditions : Repeated or prolonged exposure is not known to aggravate medical condition.

4. First-aid measures

First-Aid measures

- Inhalation** : If inhaled, remove to fresh air. Get medical attention if symptoms appear.
- Ingestion** : Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately.
- Skin Contact** : Wash with soap and water. Get medical attention if irritation develops. Cold water may be used.
- Eye Contact** : Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 20 minutes. Cold water may be used. Get medical attention.
- Notes to physician** : Not available.
- Protection of first-aiders** : Not available.

5. Fire-fighting measures

Extinguishing Media

- Suitable** : Use extinguishing media suitable for surrounding materials.
- Unsuitable** : Not available.
- Unusual fire/explosion hazards** : Not available.
- Hazardous thermal (de)composition products** : Not applicable.
- Special fire-fighting procedures** : Fire fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear.
- Protection of fire-fighters** : Not applicable.

6. Accidental release measures

- Personal precautions** : Splash goggles. Full suit. Boots. Gloves. Suggested protective clothing might not be sufficient; consult a specialist before handling this product.
- Environmental Precautions and Clean-up Methods** : Absorb with an inert material and put the spilled material in an appropriate waste disposal. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system.

Note: See section 8 for personal protective equipment and section 13 for waste disposal.

7. Handling and storage

- Handling** : Do not breathe gas/fumes/vapor/spray. Keep away from incompatibles such as oxidizing agents, acids.
- Storage** : Keep container tightly closed. Keep container in a cool, well-ventilated area. Preferred storage condition is room temperature. For long-term storage keep at 4°C.
- Germany - Storage Code** : Not available.

8. Exposure controls/personal protection

- Engineering measures** : Good general ventilation should be sufficient to control airborne levels.
- Hygiene measures** : Wash hands after handling compounds and before eating, smoking, using lavatory, and at the end of day.

Ingredient Name Occupational Exposure Limits

United States

1) No hazardous ingredients.

Germany

1) No hazardous ingredients.

United Kingdom (UK)

1) No hazardous ingredients.

Japan

1) No hazardous ingredients.

Canada

1) No hazardous ingredients.

- Recommended monitoring procedures** : Not available.

Personal protective equipment

- Respiratory system** : Vapor respirator. Be sure to use an approved/certified respirator or equivalent.
- Skin and body** : Lab coat.
- Hands** : Gloves.
- Eyes** : Safety glasses.

9. Physical and chemical properties

Physical state	: Liquid.
Color	: Colorless.
Odor	: Odorless.
pH	: 6.5 [Acidic.]
Boiling Point	: The lowest known value is 100°C (212°F) (Water).
Melting Point	: May start to solidify at 0°C (32°F) based on data for: Water.
Flash point	: Not applicable.
Explosive properties	: Risks of explosion of the product in presence of mechanical impact: Not applicable. Risks of explosion of the product in presence of static discharge: Not applicable.
Density	: The only known value is 1 (Water = 1) (Water).
Solubility	: Easily soluble in cold water, hot water, methanol, acetone.

10. Stability and reactivity

Stability	: The product is stable at room temperature.
Conditions to avoid	: The product is unstable at a temperature below 4°C and above 100°C. See Section 7 for storage conditions.
Materials to avoid	: Reactive with oxidizing agents, acids.
Hazardous Decomposition Products	: Not applicable.

11. Toxicological information

Acute toxicity

<u>Ingredient Name</u>	<u>Test</u>	<u>Result</u>	<u>Route</u>	<u>Species</u>
No hazardous ingredients.				

Skin irritation	: Non-irritant for skin.
Eye irritation	: Slightly hazardous in case of eye contact (irritant).
Sensitization	: Non-sensitizer for skin.

Chronic toxicity

: Repeated or prolonged exposure is not known to aggravate medical condition.	
Carcinogenic Effects	: Not available.
Mutagenic Effects	: Not available.
Reproduction toxicity	: Not available.
Developmental and Teratogenic Effects	: Not available.

12. Ecological information

Ecotoxicity Data

<u>Ingredient Name</u>	<u>Species</u>	<u>Period</u>	<u>Result</u>
No hazardous ingredients.			

Mobility	: Not available.
Persistence/degradability	: Not available.
Bioaccumulative potential	: Not available.
Soil/Water Partition Coefficient (K_{oc})	: Not available.

13. Disposal considerations

Methods of disposal	: Waste must be disposed of in accordance with federal, state and local environmental control regulations.
Waste Classification	: Not applicable.
European Waste Catalogue (EWC)	: Not available.
Hazardous Waste	: To present knowledge of the supplier, this product is not regarded as hazardous waste as defined by EU Directive 94/904/EC.

14. Transport information

International transport regulations

Neutralizer

Regulatory Information	Classification
DOT (United States)	Not regulated.
ADR/RID (Europe)	Not regulated.
ADN (Europe)	Not regulated.
Road Law (Japan)	Not regulated.
TDG (Canada)	Not regulated.
IATA-DGR	Not regulated.
IMDG	Not regulated.

15. Regulatory information

HCS (United States) : Not controlled under the HCS (United States).

U.S. Federal Regulations : TSCA 8(b) inventory: Components listed.
SARA 302/304/311/312 extremely hazardous substances: No ingredient was found.
SARA 302/304 emergency planning and notification: No ingredient was found.
SARA 302/304/311/312 hazardous chemicals: No ingredient was found.
SARA 311/312 MSDS distribution - chemical inventory - hazard identification: No ingredient was found.
SARA 313 toxic chemical notification and release reporting: No ingredient was found.
Clean Water Act (CWA) 307: No ingredient was found.
Clean Water Act (CWA) 311: No ingredient was found.
Clean Air Act (CAA) 112 accidental release prevention: No ingredient was found.
Clean Air Act (CAA) 112 regulated flammable substances: No ingredient was found.
Clean Air Act (CAA) 112 regulated toxic substances: No ingredient was found.

State Regulations :
California Prop. 65: No ingredient was found.

EU Regulations

Risk Phrases : This product is not classified according to the EU regulations.
Safety Phrases : Not applicable.
Contains : No hazardous ingredients at or above concentration to be considered.
Product Use : Classification and labeling have been performed according to EU directives 67/548/EEC, 88/379/EEC including amendments and the intended use.
- Consumer applications.

National regulations

Germany

Employment restrictions in accordance with § 15b of the Hazardous Substance Ordinance : No.
Hazardous Incident Ordinance : No.
Ordinance on Combustible Liquids : Class: Omitted
Hazard class for water (GWK) : 1

United Kingdom (UK)

VOC Content (Retail Use) : Not applicable.
VOC Content (Industrial Use) : Contains 0 wt% VOC.

Japan Control Laws : This product does not contain hazardous ingredient at a concentration level for which a declaration is needed.

WHMIS (Canada) : Not controlled under WHMIS (Canada).
DSL/NDL: Components listed.

This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

16. Other information

US Label Requirements : USE WITH CARE.

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

Health	1
Fire Hazard	0
Reactivity	0
Personal Protection	H

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



Europe Label :

Japan Label :

This product does not contain hazardous ingredient at a concentration level for which a declaration is needed.

WHMIS Label :

HISTORY

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4/1/2003.

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Prepared by :

Kemika XXI inc.

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SAFETY DATA SHEET



pH Binding Buffer (Acidic)

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

Product name : pH Binding Buffer (Acidic) **Manufacturer** : Norgen Biotek Corp.
344 Merritt St.
St. Catharines, Ontario
Canada L2T 1K6
Tel: (905) 227-8848
Fax: (905) 227-1061

Chemical product name : Not applicable. **Supplier** : Norgen Biotek Corp.
344 Merritt St.
St. Catharines, Ontario
Canada L2T 1K6
Tel: (905) 227-8848
Fax: (905) 227-1061

Material Uses : pH binding buffer for acidic proteins.

Synonyms : Not available. **Emergency telephone number** : Canada: CANUTEC-1-613-996-6666
US: CHEMTREC-1-800-424-9300

Chemical Formula : Not applicable.

Catalog# 10105, 10403, 10203, 10503, 10306, 10605, 17705, 17103, 17703

2. Composition / information on ingredients

Substance/Preparation : Preparation.

Chemical name	CAS No.	%	EC Number	Classification
United States 1) No hazardous ingredients.				
Germany 1) No hazardous ingredients. See Section 16 for the full text of the R Phrases declared above				
United Kingdom (UK) 1) No hazardous ingredients.				
Japan 1) No hazardous ingredients.				
Canada 1) No hazardous ingredients.				

This material is classified as non-hazardous under the United States OSHA regulation, the European DSD/DPD Directives and several countries specific requirements, in Japan and under the Canadian WHMIS regulation.

See Section 8 for Exposure Limits.
See Section 11 for Toxicological Data.
See Section 14 for UN Number.

3. Hazards identification

Physical State and Appearance : Liquid.

Emergency Overview : No specific hazard.
USE WITH CARE

Routes of Entry : Absorbed through skin. Eye contact. Ingestion.

The preparation is not classified as dangerous according to Directive 1999/45/EC and its amendments.

Classification in Europe : Not classified.

Effects and symptoms

Inhalation : Slightly hazardous in case of inhalation (lung irritant).
Skin Contact : Slightly hazardous in case of skin contact (irritant). Non-sensitizer for skin.
Eye Contact : Slightly hazardous in case of eye contact (irritant).
Aggravating conditions : Repeated or prolonged exposure is not known to aggravate medical condition.

4. First-aid measures

First-Aid measures

- Inhalation** : If inhaled, remove to fresh air. Get medical attention if symptoms appear.
- Ingestion** : Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately.
- Skin Contact** : Wash with soap and water. Get medical attention if irritation develops. Cold water may be used.
- Eye Contact** : Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 20 minutes. Cold water may be used. Get medical attention if irritation occurs.
- Notes to physician** : Not available.
- Protection of first-aiders** : Not available.

5. Fire-fighting measures

Extinguishing Media

- Suitable** : Use extinguishing media suitable for surrounding materials.
- Unsuitable** : Not available.
- Unusual fire/explosion hazards** : Not available.
- Hazardous thermal (de)composition products** : Not applicable.
- Special fire-fighting procedures** : Fire fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear.
- Protection of fire-fighters** : Not applicable.

6. Accidental release measures

- Personal precautions** : Splash goggles. Full suit. Boots. Gloves. Suggested protective clothing might not be sufficient; consult a specialist before handling this product.
- Environmental Precautions and Clean-up Methods** : Absorb with an inert material and put the spilled material in an appropriate waste disposal. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system.

Note: See section 8 for personal protective equipment and section 13 for waste disposal.

7. Handling and storage

- Handling** : Avoid contact with eyes. Wear suitable protective clothing. If you feel unwell, seek medical attention and show the label when possible. Keep away from incompatibles such as oxidizing agents.
- Storage** : Keep container tightly closed. Keep container in a cool, well-ventilated area. Preferred storage condition is room temperature. For long-term storage keep at 4°C.
- Germany - Storage Code** : Not available.

8. Exposure controls/personal protection

- Engineering measures** : Good general ventilation should be sufficient to control airborne levels.
- Hygiene measures** : Wash hands after handling compounds and before eating, smoking, using lavatory, and at the end of day.

<u>Ingredient Name</u>	<u>Occupational Exposure Limits</u>
------------------------	-------------------------------------

United States

1) No hazardous ingredients.

Germany

1) No hazardous ingredients.

United Kingdom (UK)

1) No hazardous ingredients.

Japan

1) No hazardous ingredients.

Canada

1) No hazardous ingredients.

- Recommended monitoring procedures** : Not available.

Personal protective equipment

- Respiratory system** : Vapor respirator. Be sure to use an approved/certified respirator or equivalent.
- Skin and body** : Lab coat.
- Hands** : Gloves.
- Eyes** : Safety glasses.

9. Physical and chemical properties

Physical state	: Liquid.
Color	: Colorless.
Odor	: Odorless.
pH	: 4 to 6 [Acidic.]
Boiling Point	: The lowest known value is 100°C (212°F) (Water).
Melting Point	: May start to solidify at 0°C (32°F) based on data for: Water.
Flash point	: Not applicable.
Explosive properties	: Risks of explosion of the product in presence of mechanical impact: Not applicable. Risks of explosion of the product in presence of static discharge: Not applicable.
Density	: The only known value is 1 (Water = 1) (Water).
Solubility	: Easily soluble in cold water, hot water, methanol, acetone. Insoluble in diethyl ether.

10. Stability and reactivity

Stability	: The product is stable at room temperature.
Conditions to avoid	: The product is unstable at a temperature below 4°C and above 100°C. See Section 7 for storage conditions.
Materials to avoid	: Reactive with oxidizing agents, alkalis.
Hazardous Decomposition Products	: Not applicable.

11. Toxicological information

Acute toxicity

<u>Ingredient Name</u>	<u>Test</u>	<u>Result</u>	<u>Route</u>	<u>Species</u>
No hazardous ingredients.				

Skin irritation	: Non-irritant for skin.
Eye irritation	: Slightly hazardous in case of eye contact (irritant).
Sensitization	: Non-sensitizer for skin.

Chronic toxicity

Chronic toxicity	: Repeated or prolonged exposure is not known to aggravate medical condition.
Carcinogenic Effects	: Not available.
Mutagenic Effects	: Not available.
Reproduction toxicity	: Not available.
Developmental and Teratogenic Effects	: Not available.

12. Ecological information

Ecotoxicity Data

<u>Ingredient Name</u>	<u>Species</u>	<u>Period</u>	<u>Result</u>
No hazardous ingredients.			

Mobility	: Not available.
Persistence/degradability	: Not available.
Bioaccumulative potential	: Not available.
Soil/Water Partition Coefficient (K_{oc})	: Not available.

13. Disposal considerations

Methods of disposal	: Waste must be disposed of in accordance with federal, state and local environmental control regulations.
Waste Classification	: Not applicable.
European Waste Catalogue (EWC)	: Not available.
Hazardous Waste	: To present knowledge of the supplier, this product is not regarded as hazardous waste as defined by EU Directive 94/904/EC.

14. Transport information

International transport regulations

pH Binding Buffer (Acidic)

Regulatory Information	Classification
------------------------	----------------

DOT (United States)	Not regulated.
---------------------	----------------

ADR/RID (Europe)	Not regulated.
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ADN (Europe)	Not regulated.
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Road Law (Japan)	Not regulated.
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TDG (Canada)	Not regulated.
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IATA-DGR	Not regulated.
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IMDG	Not regulated.
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15. Regulatory information

HCS (United States) : Not controlled under the HCS (United States).

U.S. Federal Regulations : TSCA 8(b) inventory: Components listed.
SARA 302/304/311/312 extremely hazardous substances: No ingredient was found.
SARA 302/304 emergency planning and notification: No ingredient was found.
SARA 302/304/311/312 hazardous chemicals: No ingredient was found.
SARA 311/312 MSDS distribution - chemical inventory - hazard identification: No ingredient was found.
SARA 313 toxic chemical notification and release reporting: No ingredient was found.
Clean Water Act (CWA) 307: No ingredient was found.
Clean Water Act (CWA) 311: No ingredient was found.
Clean Air Act (CAA) 112 accidental release prevention: No ingredient was found.
Clean Air Act (CAA) 112 regulated flammable substances: No ingredient was found.
Clean Air Act (CAA) 112 regulated toxic substances: No ingredient was found.

State Regulations :
California Prop. 65: No ingredient was found.

EU Regulations

Risk Phrases : This product is not classified according to the EU regulations.
Safety Phrases : Not applicable.
Contains : No hazardous ingredients at or above concentration to be considered.
Product Use : Classification and labeling have been performed according to EU directives 67/548/EEC, 88/379/EEC including amendments and the intended use.
- Consumer applications.

National regulations

Germany

Employment restrictions in accordance with § 15b of the Hazardous Substance Ordinance : No.
Hazardous Incident Ordinance : No.
Ordinance on Combustible Liquids : Class: Omitted
Hazard class for water (GWK) : 1

United Kingdom (UK)

VOC Content (Retail Use) : Not applicable.
VOC Content (Industrial Use) : Contains 0 wt% VOC.

Japan Control Laws : Sodium acetate solution are listed on the Japan Marine Pollution Disaster Law. Ministerial Implementation Ordinance Harmful Liquids (in bulk) Class D. Revised July 20, 1996, implemented 1971.

WHMIS (Canada) : Not controlled under WHMIS (Canada).
DSL/NDSL: Components listed.

This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

16. Other information

US Label Requirements : USE WITH CARE

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

Health	1
Fire Hazard	0
Reactivity	0
Personal Protection	G

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



Europe Label :

Japan Label : Sodium acetate solution are listed on the Japan Marine Pollution Disaster Law. Ministerial Implementation Ordinance Hamful Liquids (in bulk) Class D. Revised July 20, 1996, implemented 1971.

WHMIS Label :

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- Date of Previous Issue : No Previous Validation.
- Version : 1
- Prepared by : Kemika XXI inc.

Notice to Reader

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SAFETY DATA SHEET



Spin Columns

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

Product name : Spin Columns (Silicon Carbide) **Manufacturer** : Norgen Biotek Corp.
344 Merritt St.
St. Catharines, Ontario
Canada L2T 1K6
Tel: (905) 227-8848
Fax: (905) 227-1061

Chemical product name : Not applicable. **Supplier** : Norgen Biotek Corp.
344 Merritt St.
St. Catharines, Ontario
Canada L2T 1K6
Tel: (905) 227-8848
Fax: (905) 227-1061

Synonyms : Not available. **Emergency telephone number** : Canada: CANUTEC-1-613-996-6666
US: CHEMTREC-1-800-424-9300

Chemical Formula : Not applicable.

Material Uses : Spin columns (filled with silicon carbide).

Catalog#
10101, 14401, 10301, 13301, 17001, 17301, 17401, 17208, 18111

2. Composition / information on ingredients

Substance/Preparation : Preparation.

Chemical name	CAS No.	%	EC Number	Classification
United States 1) Silicon Carbide	409-21-2	70-100	206-991-8	Not applicable.
Germany 1) Silicon Carbide	409-21-2	70-100	206-991-8	Not applicable.
See Section 16 for the full text of the R Phrases declared above				
United Kingdom (UK) 1) Silicon Carbide	409-21-2	70-100	206-991-8	Not applicable.
Japan 1) Silicon Carbide	409-21-2	70-100	Listed on METI.	Not applicable.
Canada 1) Silicon Carbide	409-21-2	70-100	206-991-8	Not applicable.

This material is classified as non-hazardous under the United States OSHA regulation, the European DSD/DPD Directives and several countries specific requirements, in Japan and under the Canadian WHMIS regulation.

See Section 8 for Exposure Limits.
See Section 11 for Toxicological Data.
See Section 14 for UN Number.

3. Hazards identification

Physical State and Appearance : Solid. (Powdered solid.)

Emergency Overview : No specific hazard.
USE WITH CARE
Do not breathe dust.

Routes of Entry : Inhalation.

The substance is not classified as dangerous according to Directive 2001/59/EC.

Classification in Europe :

Effects and symptoms

Inhalation : Slightly hazardous in case of inhalation (lung irritant). Can cause silicosis.

Skin Contact : Slightly hazardous in case of skin contact (irritant). Non-sensitizer for skin.

Eye Contact : Non-irritating to the eyes.

Aggravating conditions : Repeated or prolonged exposure may aggravate medical condition. Do not break container and avoid breathing dust.

4. First-aid measures

First-Aid measures

- Inhalation** : If inhaled, remove to fresh air. Get medical attention if symptoms appear.
- Ingestion** : Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately.
- Skin Contact** : Wash with soap and water. Get medical attention if irritation develops. Cold water may be used.
- Eye Contact** : Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 20 minutes. Get medical attention if irritation occurs.
- Notes to physician** : Not available.
- Protection of first-aiders** : Not available.

5. Fire-fighting measures

Extinguishing Media

- Suitable** : Use extinguishing media suitable for surrounding materials.
- Unsuitable.** : Not available.
- Unusual fire/explosion hazards** : Not available.
- Hazardous thermal (de)composition products** : Not applicable.
- Special fire-fighting procedures** : Fire fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear.
- Protection of fire-fighters** : Not applicable.

6. Accidental release measures

- Personal precautions** : Splash goggles. Full suit. Boots. Gloves. Suggested protective clothing might not be sufficient; consult a specialist before handling this product.
- Environmental Precautions and Clean-up Methods** : Use a shovel to put the material into a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system.

Note: See section 8 for personal protective equipment and section 13 for waste disposal.

7. Handling and storage

- Handling** : Do not breathe dust. Keep away from incompatibles such as oxidizing agents, acids.
- Storage** : Keep container tightly closed. Keep container in a cool, well-ventilated area.
- Germany - Storage Code** : Not available.

8. Exposure controls/personal protection

- Engineering measures** : Good general ventilation should be sufficient to control airborne levels.
- Hygiene measures** : Wash hands after handling compounds and before eating, smoking, using lavatory, and at the end of day.

Ingredient Name

Occupational Exposure Limits

United States

- | | |
|--------------------|--|
| 1) Silicon Carbide | ACGIH TLV (United States, 2001). Notes: 1996 Adoption The value is for total dust containing no asbestos and < 1% crystalline silica. Refers to Appendix A – Carcinogens.
TWA: 10 mg/m ³
NIOSH REL (United States, 2001).
TWA: 5 mg/m ³ Period: 10 hour(s). Form: Respirable fraction
OSHA PEL (United States, 1971).
TWA: 5 MGM3 Form: Respirable fraction
TWA: 15 MGM3 Form: Total dust
OSHA PEL 1989 (United States, 1989).
TWA: 5 mg/m ³ Form: Respirable fraction
TWA: 10 mg/m ³ Form: Total dust |
|--------------------|--|

Germany

- | | |
|--------------------|----------------|
| 1) Silicon Carbide | Not available. |
|--------------------|----------------|

United Kingdom (UK)

- | | |
|--------------------|----------------|
| 1) Silicon Carbide | Not available. |
|--------------------|----------------|

Japan

- | | |
|--------------------|----------------|
| 1) Silicon Carbide | Not available. |
|--------------------|----------------|

Canada

- | | |
|--------------------|----------------|
| 1) Silicon Carbide | Not available. |
|--------------------|----------------|

- Recommended monitoring procedures** : Not available.

Personal protective equipment

- Respiratory system** : Dust respirator. Be sure to use an approved/certified respirator or equivalent.
- Skin and body** : Lab coat.
- Hands** : Gloves.
- Eyes** : Safety glasses.

9. Physical and chemical properties

Physical state	: Solid. (Powdered solid.)
Color	: Grey.
Odor	: Odorless.
pH	: Not applicable.
Flash point	: Not applicable.
Explosive properties	: Risks of explosion of the product in presence of mechanical impact: Not applicable. Risks of explosion of the product in presence of static discharge: Not applicable.
Density	: The only known value is 3.23 (Water = 1) (Silicon Carbide).
Solubility	: Insoluble in cold water, hot water.

10. Stability and reactivity

Stability	: The product is stable at room temperature.
Conditions to avoid	: Not available.
Materials to avoid	: Reactive with oxidizing agents, acids.
Hazardous Decomposition Products	: Not applicable.

11. Toxicological information**Acute toxicity**

<u>Ingredient Name</u>	<u>Test</u>	<u>Result</u>	<u>Route</u>	<u>Species</u>
Silicon Carbide	Not available.	Not available.	Not available.	Not available.

Skin irritation : Non-irritant for skin.

Eye irritation : Hazardous in case of eye contact (irritant).

Sensitization : Non-sensitizer for skin.

Chronic toxicity : Repeated or prolonged exposure may aggravate medical condition. Do not break container and avoid breathing dust.

Carcinogenic Effects : Not available.

Mutagenic Effects : Not available.

Reproduction toxicity : Not available.

Developmental and Teratogenic Effects : Not available.

12. Ecological information**Ecotoxicity Data**

<u>Ingredient Name</u>	<u>Species</u>	<u>Period</u>	<u>Result</u>
Silicon Carbide	Not available.	Not available.	Not available.

Mobility : Not available.

Persistence/degradability : Not available.

Bioaccumulative potential : Not available.

Soil/Water Partition Coefficient (K_{oc}) : Not available.

13. Disposal considerations

Methods of disposal : Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Waste Classification : Not applicable.

European Waste Catalogue (EWC) : Not available.

Hazardous Waste : To present knowledge of the supplier, this product is not regarded as hazardous waste as defined by EU Directive 94/904/EC.

14. Transport information**International transport regulations**

Spin Columns (Silicon Carbide)

Regulatory Information

Classification

DOT (United States)	Not regulated.
ADR/RID (Europe)	Not regulated.
ADN (Europe)	Not regulated.
Road Law (Japan)	Not regulated.
TDG (Canada)	Not regulated.
IATA-DGR	Not regulated.
IMDG	Not regulated.

15. Regulatory information

HCS (United States)	: Not controlled under the HCS (United States).
U.S. Federal Regulations	: TSCA 8(b) inventory: Components listed. SARA 302/304/311/312 extremely hazardous substances: No ingredient was found. SARA 302/304 emergency planning and notification: No ingredient was found. SARA 302/304/311/312 hazardous chemicals: Silicon Carbide SARA 311/312 MSDS distribution - chemical inventory - hazard identification: Silicon Carbide: Immediate (Acute) Health Hazard SARA 313 toxic chemical notification and release reporting: No ingredient was found. Clean Water Act (CWA) 307: No ingredient was found. Clean Water Act (CWA) 311: No ingredient was found. Clean Air Act (CAA) 112 accidental release prevention: No ingredient was found. Clean Air Act (CAA) 112 regulated flammable substances: No ingredient was found. Clean Air Act (CAA) 112 regulated toxic substances: No ingredient was found.
State Regulations	: Pennsylvania RTK: Silicon Carbide: (generic environmental hazard) Massachusetts RTK: Silicon Carbide New Jersey: Silicon Carbide California Prop. 65: No ingredient was found.

EU Regulations

Risk Phrases	: This product is not classified according to the EU regulations.
Safety Phrases	: Not applicable.
Contains	: No hazardous ingredients at or above concentration to be considered.
Product Use	: Classification and labeling have been performed according to EU directives 67/548/EEC, 88/379/EEC including amendments and the intended use. - Consumer applications.

National regulations

Germany

Ordinance on Combustible Liquids	: Class: Omitted
Hazard class for water (GWK)	: 1

United Kingdom (UK)

VOC Content (Retail Use)	: Not applicable.
VOC Content (Industrial Use)	: Contains 0 wt% VOC.

Japan Control Laws : Contains no substances that is considered hazardous at the present concentration level.

WHMIS (Canada) : Not controlled under WHMIS (Canada).
DSL/NDSL: Components listed.

This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

16. Other information

US Label Requirements : USE WITH CARE

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

Health	1
Fire Hazard	0
Reactivity	0
Personal Protection	E

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



Europe Label :

Japan Label : Contains no substances that is considered hazardous at the present concentration level.

WHMIS Label :

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