

Solulink, Incorporated
9853 Pacific Heights Blvd, Suite H
San Diego, California 92121

Phone: (858) 625-0670
Fax: (858) 625-0770

DATE: Sept 24, 2007

MATERIAL SAFETY DATA SHEET

Product Name/Description: ChromaLink Digoxigenin (Sulfo-NHS)

I. Product and Company Description

Solulink Biosciences
9853 Pacific Heights Blvd, Ste H.
San Diego, CA 92121

For Product Information/Emergency Phone Number:

Emergency Telephone ChemTrec:
1-800-424-9300 (North America)
+1-703-527-3887(International)

SoluLink-858.625.0670 (For product use see product data sheet insert)

Chemical Name or Synonym:

ChromaLink Dig

II. Chemical Composition

ChromaLink Digoxigenin (Sulfo-NHS) is supplied as a dried nearly colorless residue

Chemical name: Sodium 1-(4-[[5-(3-{2-[2-(3-Digoxigeninyl-carbonylamino-propoxy)-ethoxy]-ethoxy}-propylcarbamoyl)-pyridin-2-yl]-hydrazonomethyl]-benzoyloxy)-2,5-dioxo-pyrrolidine-3-sulfonate)

Molecular formula: $C_{52}H_{67}N_6NaO_{17}S$;
Molecular Weight: 1103.17

Chemical composition is similar and closely related to CAS # 129273-26-3

Ingredient Name	CAS Number	%	EC number	Classification
ChromaLink Digoxigenin (Sulfo-NHS)	Not listed	>85%	Not available	T+, R26,R27, R28-33 S:28-36/37-45

III. Hazards Identification

Emergency Overview and Health Hazards: Highly toxic (USA), Very toxic (EU)

NFPA Rating (Scale 0-4): Health = 2 Fire = 0 Reactivity = 0

HMIS Rating (Scale 0-4): Health = 2 Fire = 0 Reactivity = 0

For additional information on toxicity, please refer to section XI.

A. Emergency Overview:

Information Pertaining To Particular Dangers for Man And Environment:

Physical Appearance: Nearly colorless dried residue

B. Potential Health Effects:

Acute Eye:

Direct contact may cause irritation with redness.

Acute Skin:

Toxic in contact with skin.

Acute Inhalation:

Toxic: danger of serious damage to health by prolonged exposure through inhalation.

Acute ingestion:

Toxic if swallowed.

IV. First Aid Measures

First Aid Measures for Accidental:

Eye Exposure:

In case of contact with eyes, immediately flush eyes with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating eye lids. SEEK MEDICAL ATTENTION IMMEDIATELY.

Skin Exposure:

In case of skin contact, wash affected areas with soap and water and flush the area with copious amounts of water. Remove contaminated clothing and SEEK MEDICAL ATTENTION IMMEDIATELY.

Inhalation:

In inhaled, move to fresh air. If not breathing, administer artificial respiration. If breathing is difficult, give oxygen or artificial respiration by qualified personnel. SEEK MEDICAL ATTENTION IMMEDIATELY.

Ingestion:

If swallowed, rinse mouth out with water provided person is conscious. Never give fluids or induce vomiting if the victim is unconscious or having convulsions. SEEK MEDICAL ATTENTION IMMEDIATELY.

V. Fire Fighting Measures

Fire Hazard Data:

Fire: Materials contained in this product are not considered to be a fire hazard.

Autoignition: not applicable

Flash Point: not applicable

Flammability Limits (vol/vol%): not applicable **Lower: Upper:** not applicable

Extinguishing Media: Use extinguishing media appropriate for surrounding fire

Special Fire Fighting Procedures: Use extinguishing media appropriate for surrounding fire such as water spray, carbon dioxide, dry powder. Wear full protective clothing and NIOSH-approved self-contained breathing apparatus. Avoid inhalation of material or combustion by-products.

Unusual Fire and Explosion Hazards: None known

VI. Accidental Release Measures

Cleanup and Disposal of Spill:

Use lab personal protective equipment such as gloves, lab coat, goggles and self-contained breathing apparatus. Wipe spills with absorbent wipes and discard any product, residue, disposable container or liner in full compliance with national or international regulations. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

VII. Handling and Storage

Handling/Storage:

Do not breathe dust. Do not get into eyes, skin or clothing. Avoid prolonged or repeated exposure. Handle wearing gloves.

Store material dry at room temperature and keep container tightly closed.

VIII. Exposure Controls / Personal Protection

Exposure Guidelines:

Ingredient Name	ACGIH	NIOSH	OSHA-PELs
ChromaLink Digoxigenin (Sulfo-NHS)	No occupational limits established	No occupational limits established	No occupational limits established

Engineering Controls:

Ventilation must be adequate to maintain the ambient workplace atmosphere below the exposure limit(s) outlined in the MSDS. General room ventilation is satisfactory under anticipated use conditions.

Respiratory Protection:

Not required under anticipated use conditions.

Eye / Face Protection:

Wear appropriate safety glasses with side shields or chemical goggles as described by OSHA's eye and face protection regulations in 29CFR 1910.133 or European Standard EN166.

Skin Protection:

Wear chemical resistant gloves (such as latex or neoprene) and protective clothing to prevent skin contact.

IX. Physical and Chemical Properties

Component: ChromaLink Digoxigenin (Sulfo-NHS)

Physical Appearance: Nearly colorless residue

Percent Purity: >85%

Boiling Point: No information available

Melting Point: No information available

Specific gravity: No information available

Freezing Point: No information available

Vapor pressure: No information available

Vapor density: No information available

Solubility: aqueous

Evaporation rate: No information available

X. Stability and Reactivity

Chemical Stability:

Stable, may be slightly hygroscopic.

Conditions to Avoid:

Temperatures > 104°C

Materials / Chemicals to Be Avoided:

Strong oxidizing agents

Hazardous Decomposition Products:

Carbon monoxide, carbon dioxide

Hazardous Polymerization:

Will not occur.

XI. Toxicological Information

Acute Oral Toxicity: 0.422 mg/kg (dog) data referred to Digoxigenin LD50
0.20 mg/kg (cat) data referred to Digoxigenin LD50

Acute Inhalation Toxicity: May be fatal if inhaled.

Carcinogenicity:

NTP: Unknown

IARC: Unknown

OSHA: Unknown

XII. Ecological Information

Ecotoxicological Information:

No data available on the product itself

Aquatic toxicity: Not applicable

XIII. Disposal Considerations

Waste Disposal Method:

Discard any product, residue, disposable container or liner in full compliance with national regulations.

Container Handling and Disposal:

Dispose of container and unused contents in accordance with national regulations.

XIV. Transportation Information

Is product hazardous to ship? Yes

DOT

Proper Shipping Name: Toxic solid, organic, n.o.s (Sodium 1-(4-([5-(3-{2-[2-(3-Digoxigeninyl-carbonylamino-propoxy)-ethoxy]-ethoxy}-propylcarbamoyl)-pyridin-2-yl]-hydrazonomethyl)-benzoyloxy)-2,5-dioxo-pyrrolidine-3-sulfonate)

UN #: 2811
Hazard Class: 6.1
Packaging Group: III
Subsidiary risk: Not applicable

IATA

Proper Shipping Name: Toxic solids, organic, n.o.s (Sodium 1-(4-([5-(3-{2-[2-(3-Digoxigeninyl-carbonylamino-propoxy)-ethoxy]-ethoxy}-propylcarbamoyl)-pyridin-2-yl]-hydrazonomethyl)-benzoyloxy)-2,5-dioxo-pyrrolidine-3-sulfonate)

IATA UN Number: 2811
Hazard Class: 6.1
Packaging Group: III
Subsidiary risk: Not applicable

XV. Regulatory Information

Indication of danger: Very toxic R: 26/27/28/33

Risk Assessment; Very toxic by inhalation, in contact with skin and if swallowed. Danger of cumulative effects.

S:28-36/37-45

Safety Statement: After contact with skin, wash immediately with plenty of polyethylene glycol. Wear suitable protective clothing and gloves. In case of accident or if you feel unwell, seek immediate medical advice (show the label where possible).

U.S. Federal Regulations:

U.S. CERCLA/SARA/TSCA Regulatory Information: Not Listed

Other Regulations:

U.S. State None

European/International Regulations

EC Classification: T+ Very toxic

EC Risk and Safety Phrases: R26 Very toxic by inhalation
R27 Very toxic in contact with skin
R28 Very toxic if swallowed
R33 Danger of cumulative effects

Risk Phrases: None

Safety Phrases: S28 After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of ... (to be specified by the manufacturer)

S29 Do not empty into drains; dispose of this material and its container in a safe way

XVI. Other Information

Key Legend Information:

N/A – Not Applicable

ND – Not Determined

ACGIH – American Conference of Governmental Industrial Hygienists

OSHA – Occupational Safety and Health Administration

TLV – Threshold Limit Value

PEL – Permissible Exposure Limit

TWA – Time Weighted Average

STEL – Short Term Exposure Limit

NTP – National Toxicology Program

IARC – International Agency for Research on Cancer

The information contained herein is based on the data available to us and is believed to be correct. However Solulink Incorporated makes no warranty, expressed or implied regarding the accuracy of this data or the results to be obtained from the use thereof be obtained from the use thereof.

MATERIAL SAFETY DATA SHEET

1. CHEMICAL IDENTIFICATION

Product Name: 1X Modification Buffer
Catalog Number: S-4000

2. COMPOSITION/INGREDIENTS

<u>Ingredient name:</u>	<u>CAS Number:</u>	<u>%:</u>
Sodium Phosphate, Dibasic	7558-79-4	25-45
Sodium Chloride	7647-14-5	25-45
Sodium Phosphate, Monobasic	10049-21-5	10-20

3. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Clear liquid
Percent Purity: 100%
Boiling Point: 100°C
Freezing Point: 0°C
pH: 7.2
Solubility: Aqueous
Vapor Density: NA
Vapor Pressure: NA

4. HAZARDS IDENTIFICATION

Emergency Overview:

Avoid contact with skin and clothing. Wash thoroughly after handling.
Sodium azide is highly toxic and is readily absorbed through skin. Sodium azide may react with lead and copper plumbing to form highly explosive metal azides.

HMIS Rating:

Health: 4
Flammability: 0
Reactivity: 2

NFPA Rating:

Health: 4
Flammability: 0
Reactivity: 2

5. EXPOSURE CONTROLS/EMPLOYEE PROTECTION

Wear appropriate NIOSH/MSHA-approved respirator, chemical-resistant gloves, safety goggles, and other protective clothing. Safety shower and eye bath required. Mechanical exhaust required. Wash thoroughly after handling.

6. FIRST AID MEASURES

Eyes: Immediately flush eyes with copious amounts of water for at least 15 minutes
Skin: Immediately wash skin with soap and copious amounts of water
Inhalation: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult give oxygen
Ingestion: If swallowed, wash out mouth with water provided person is conscious. Call a physician immediately.
Other: Wash contaminated clothing before re-use

7. FIRE FIGHTING MEASURES

Upper Flammable Limit:	NA
Lower Flammable Limit:	NA
Upper Explosion Limit:	NA
Lower Explosion Limit:	NA
Flashpoint:	NA
Auto ignition Temperature:	NA
Fire Extinguishing Media:	NA
Unusual Fire/Explosion Data:	NA

8. ACCIDENTAL RELEASE

Wear respirator, chemical safety goggles, rubber boots, and heavy rubber gloves. Sweep up, place in a bag, and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

9. HANDLING AND STORAGE

Store in tightly sealed container at room temperature.

10. WASTE DISPOSAL

Contact a licensed professional waste disposal service to dispose of this material. Observe all federal, State and local environmental regulations.

Solulink, Inc. believes the above information to be accurate, but not necessarily all inclusive, and thus should only be used as a guide in the handling and use of this material. The data in this MSDS relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process. Solulink, Inc. shall not take responsibility for any damage resulting from handling or from contact with the above product. The information in this material safety data sheet meets the requirements of the United States Occupational Safety and Health Act and regulations promulgated thereunder 29 CFR § 1910.1200.

Solulink, Incorporated
9853 Pacific Heights Blvd, Suite H
San Diego, California 92121

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Fax: (858) 625-0770

DATE: Sept 24, 2007

MATERIAL SAFETY DATA SHEET

1. CHEMICAL IDENTIFICATION

Product Name: 1X PBS Buffer
Catalog Number: S-4017-002

2. COMPOSITION/INGREDIENTS

<u>Ingredient name:</u>	<u>CAS Number:</u>	<u>%:</u>
Sodium Phosphate, Dibasic	7558-79-4	25-45
Sodium Chloride	7647-14-5	25-45
Sodium Phosphate, Monobasic	10049-21-5	10-20
Sodium Azide	26628-22-8	0.05

3. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Clear liquid
Percent Purity: 100%
Boiling Point: 100°C
Freezing Point: 0°C
pH: 7.2
Solubility: Aqueous
Vapor Density: NA
Vapor Pressure: NA

4. HAZARDS IDENTIFICATION

Emergency Overview:

Avoid contact with skin and clothing. Wash thoroughly after handling.

Sodium azide is highly toxic and is readily absorbed through skin. Sodium azide may react with lead and copper plumbing to form highly explosive metal azides.

HMIS Rating:

Health: 4
Flammability: 0
Reactivity: 2

NFPA Rating:

Health: 4
Flammability: 0
Reactivity: 2

5. EXPOSURE CONTROLS/EMPLOYEE PROTECTION

Wear appropriate NIOSH/MSHA-approved respirator, chemical-resistant gloves, safety goggles, and other protective clothing. Safety shower and eye bath required. Mechanical exhaust required. Wash thoroughly after handling.

6. FIRST AID MEASURES

Eyes: Immediately flush eyes with copious amounts of water for at least 15 minutes

Skin: Immediately wash skin with soap and copious amounts of water

Inhalation: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult give oxygen

Ingestion: If swallowed, wash out mouth with water provided person is conscious. Call a physician immediately.

Other: Wash contaminated clothing before re-use

7. FIRE FIGHTING MEASURES

Upper Flammable Limit: NA

Lower Flammable Limit: NA

Upper Explosion Limit: NA

Lower Explosion Limit: NA

Flashpoint: NA

Auto ignition Temperature: NA

Fire Extinguishing Media: NA

Unusual Fire/Explosion Data: NA

8. ACCIDENTAL RELEASE

Wear respirator, chemical safety goggles, rubber boots, and heavy rubber gloves. Sweep up, place in a bag, and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

9. HANDLING AND STORAGE

Store in tightly sealed container at room temperature.

10. WASTE DISPOSAL

Contact a licensed professional waste disposal service to dispose of this material. Observe all federal, State and local environmental regulations.

Solulink, Inc. believes the above information to be accurate, but not necessarily all inclusive, and thus should only be used as a guide in the handling and use of this material. The data in this MSDS relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process. Solulink, Inc. shall not take responsibility for any damage resulting from handling or from contact with the above product. The information in this material safety data sheet meets the requirements of the United States Occupational Safety and Health Act and regulations promulgated thereunder 29 CFR § 1910.1200.

Solulink, Incorporated
9853 Pacific Heights Blvd, Suite H
San Diego, California 92121

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Fax: (858) 625-0770

DATE: July 24, 2007

MATERIAL SAFETY DATA SHEET

1. CHEMICAL IDENTIFICATION

Chemical Name: **DMF, Dimethylformamide**
Catalog Number: S 4001
Molecular Formula: $\text{HCON}(\text{CH}_3)_2$

2. COMPOSITION/INGREDIENTS

CAS Number: Custom synthesized compound. No CAS Number.
Components:

3. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Colorless liquid
Percent Purity: 99.8%
Boiling Point: 153 C
Melting Point: -61 C
Vapor Density: 2.5
Vapor Pressure: 2.6 mm Hg at 20 C
Specific Gravity: 0.95
Flash Point: 58 C
Explosion limits: 2.2%- 15.2%
Autoignition Temperature: 445C

4. REACTIVITY

Stability: stable

5. EXPOSURE CONTROLS/EMPLOYEE PROTECTION

Wear appropriate NIOSH/MSHA-approved respirator, chemical-resistant gloves, safety goggles, and other protective clothing. Safety shower and eye bath required. Mechanical exhaust required. Wash thoroughly after handling.

6. HAZARDS IDENTIFICATION

Precautionary Statement:	May act as a carcinogen, exposure may result in fetal death. Long term exposure may result in kidney or liver damage
Primary Routes of Entry:	Harmful by inhalation, ingestion of skin contact
PEL:	NA
TLV:	NA
LD50:	NA
Carcinogenicity:	NA
Toxicity:	NA
RTECS #:	NA
Acute Effects:	NA
Chronic Effects:	NA
Target Organs:	NA

7. **FIRST AID MEASURES**

Eyes: Immediately flush eyes with copious amounts of water for at least 15 minutes

Skin: Immediately wash skin with soap and copious amounts of water

Inhalation: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult give oxygen

Ingestion: If swallowed, wash out mouth with water provided person is conscious. Call a physician.

Other: Wash contaminated clothing before re-use

8. **FIRE FIGHTING MEASURES**

Upper Flammable Limit: NA

Lower Flammable Limit: NA

Upper Explosion Limit: NA

Lower Explosion Limit: NA

Flashpoint: NA

Auto ignition Temperature: NA

Fire Extinguishing Media: NA

Unusual Fire/Explosion Data: NA

9. **ACCIDENTAL RELEASE**

Wear respirator, chemical safety goggles, rubber boots, and heavy rubber gloves. Sweep up, place in a bag, and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

10. **HANDLING AND STORAGE**

Store desiccated at or below room temperature.

11. **WASTE DISPOSAL**

Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations.

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Product Name/Description: Digoxigenin IgG Control

I. Product and Company Description

Solulink Biosciences
9853 Pacific Heights Blvd, Ste H.
San Diego, CA 92121

For Product Information/Emergency Phone Number:

Emergency Telephone ChemTrec:
1-800-424-9300 (North America)
+1-703-527-3887(International)

SoluLInk-858.625.0670 (For product use see product data sheet insert)

Chemical Name or Synonym:

Digoxigenin IgG Control

II. Chemical Composition

Digoxigenin-IgG Control appears as a white powdered residue that is dried down from a sodium phosphate buffered solution.

Chemical Composition: Complex protein (M.W. ~ 150 kD) of bovine origin that has been chemically modified with pendant digoxigenin molecules and dried down from a sodium phosphate buffered solution.

Chemical composition of attached digoxigenin molecules are closely related to CAS # 129273-26-3

Ingredient Name	CAS Number	%	EC number	Classification
Digoxigenin IgG	Not listed	0.001 %	Not available	T+, R26,R27, R28-33 S:28-36/37-45
Sodium phosphate, monobasic	10049-21-5	3.1%	231-449-2	Xi, R 36/37/38
Sodium phosphate, dibasic	7558-79-4	11.02 %	231-448-7	Xi, R 36/37/38
Sodium chloride	7647-14-5	85.87%	231-598-3	Xi, R 36/37/38

III. Hazards Identification

Physical appearance: white dry residue

OSHA status: This material is considered hazardous by the OSHA Hazard Communication Standard (29CFR1910.1200)

NFPA Ratings (Scale 0-4): Health = 2 Fire = 1 Reactivity = 1

Major Health Hazards: Warning! Respiratory tract irritation. Skin and eye irritation. Contains material that can cause target organ damage.

Potential Health Effects:

Acute Eye:

Direct contact may cause irritation with redness.

Acute Skin:

Direct contact may cause skin irritation with redness.

Acute Inhalation:

Acute and chronic exposure may cause irritation of the mucous membranes. Symptoms may include tightness and pain in the chest, coughing, and difficulty breathing. No significant adverse effects have been reported.

Acute ingestion:

Acute exposure may cause gastrointestinal irritation to the mouth and stomach.

IV. First Aid Measures

First Aid Measures for Accidental:

Eye Exposure:

Immediately flush eyes with copious amounts of water for at least 15 minutes. If irritation develops seek medical attention.

Skin Exposure:

Wash affected areas with soap and water. If irritation develops seek medical attention.

Inhalation:

Move to fresh air. If not breathing, administer artificial respiration. If breathing is difficult, give oxygen or artificial respiration by qualified personnel. SEEK MEDICAL ATTENTION.

Ingestion:

If a large amount is swallowed, rinse mouth out with water. Never give fluids or induce vomiting if the victim is unconscious or having convulsions. SEEK MEDICAL ATTENTION.

V. Fire Fighting Measures

Fire Hazard Data:

Fire: Materials contained in this product are not considered to be a fire hazard.

Autoignition: not applicable

Flash Point: not applicable

Flammability Limits (vol/vol%): not applicable **Lower: Upper:** not applicable

Extinguishing Media: Use extinguishing media appropriate for surrounding fire

Special Fire Fighting Procedures: Use extinguishing media appropriate for surrounding fire such as water spray, carbon dioxide, dry powder. Wear full protective clothing and NIOSH-approved self-contained breathing apparatus. Avoid inhalation of material or combustion by-products.

Unusual Fire and Explosion Hazards: None

VI. Accidental Release Measures

Cleanup and Disposal of Spill:

Use standard lab personal protective equipment such as gloves, lab coat, and goggles and wipe spills with absorbent wipes and discard any product, residue, disposable container or liner in full compliance with national or international regulations. No special measures are indicated.

VII. Handling and Storage

Handling/Storage: Handle wearing gloves. Store material at room temperature.

VIII. Exposure Controls / Personal Protection

Exposure Guidelines:

Ingredient Name	ACGIH	NIOSH	OSHA-PELs
Sodium phosphate, dibasic	Not listed	Not listed	Not listed
Sodium phosphate, monobasic	Not listed	Not listed	Not listed
Sodium chloride	N/A	N/A	N/A
IgG-Digoxigenin (data for digoxigenin)	Not listed	Not listed	Not listed

Engineering Controls:

Ventilation must be adequate to maintain the ambient workplace atmosphere below the exposure limit(s) outlined in the MSDS. General room ventilation is satisfactory under anticipated use conditions.

Respiratory Protection:

Not required under anticipated use conditions.

Eye / Face Protection:

Wear appropriate safety glasses with side shields or chemical goggles as described by OSHA's eye and face protection regulations in 29CFR 1910.133 or European Standard EN166.

Skin Protection:

Wear chemical resistant gloves (such as latex or neoprene) and protective clothing to prevent skin contact.

IX. Physical and Chemical Properties

Component: Digoxigenin-IgG

Physical Appearance: white powdered residue

Percent Purity: 100%

Boiling Point: not available

Melting Point: not available

Specific gravity: Not available

Freezing Point: Not Available

X. Stability and Reactivity

Chemical Stability:

Stable, may be slightly hygroscopic.

Conditions to Avoid:

Temperatures > 104°C

Materials / Chemicals to Be Avoided:

No information is available

Hazardous Decomposition Products:

Phosphorus oxides may form when heated to decomposition

Hazardous Polymerization:

Will not occur.

XI. Toxicological Information

Toxicity:

Digoxigenin: 0.422 mg/kg (dog) data referred to free Digoxigenin LD50

0.20 mg/kg (cat) data referred to Digoxigenin LD50

Digoxigenin: May be fatal if inhaled.

sodium chloride: LD50 Dermal Rabbit >10 gm/kg - LD50 Dermal Rabbit 10000 mg/kg -

LC50 Inhalation Rat >42 g/m³ 1 h- LD50 Oral Rat 3 g/kg

Intraperitoneal: Rat 2600 mg/kg -LD50 Oral Mouse 4000 mg/kg -LD50 Oral Rat 3000 mg/kg -

LD50 Oral Rat 3000 mg/kg -LDLo

Intraperitoneal Rat 3.72 gm/kg –LDLo Subcutaneous Rat 3500 mg/kg -LC50 Inhalation

Dusts and mists:Rat >42 gm/m³ 1 hours

sodium phosphate, dibasic LD50 Oral Rat 17000 mg/kg -LDLo

IntraperitonealRat 1 gm/kg -LDLo Rat 1 gm/kg –Intramuscular

Chronic toxicity:

Conclusion/Summary : Not available.

Carcinogenicity: Conclusion/Summary: Not available.

Mutagenicity:Conclusion/Summary : Not available.

Teratogenicity: Conclusion/Summary : Not available.

Reproductive toxicity

sodium phosphate, dibasic -none

sodium chloride- none

sodium dihydrogen orthophosphate,

monohydrate

Product/ingredient name ACGIH IARC EPA NIOSH NTP OSHA

Chronic effects : No known significant effects or critical hazards.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity: No known significant effects or critical hazards.

Teratogenicity: No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

XII. Ecological Information

Ecotoxicological Information:

Sodium phosphate leaches through the soil or the sediment at a moderate rate. Accumulates very little in bodies of living organisms.

XIII. Disposal Considerations

Waste Disposal Method:

Discard any product, residue, disposable container or liner in full compliance with national regulations.

Container Handling and Disposal:

Dispose of container and unused contents in accordance with national regulations.

XIV. Transportation Information

Shipping Name: ADR/RID/IATA/IMO/ICAO/US DOT

UN #: 2811

Hazard Class: 6.1

Packaging Group: III

Subsidiary risk: Not applicable

Proper Shipping Name: Toxic solid, organic, n.o.s (Sodium 1-(4-[[5-(3-{2-[2-(3-Digoxigeninyl-carbonylamino-propoxy)-ethoxy]-ethoxy}-propylcarbamoyl)-pyridin-2-yl]-hydrazonomethyl]-benzoyloxy)-2,5-dioxo-pyrrolidine-3-sulfonate)

XV. Regulatory Information

U.S. Federal Regulations:

SARA Title III Hazard Classes:

Fire Hazard: Not regulated
Reactive Hazard: Not regulated
Release of Pressure: Not regulated
Acute Health Hazard: Not regulated
Chronic Health Hazard: Not regulated

TSCA

All components of this product are on the TSCA inventory or are not listed.

Other Regulations:

U.S. State None

European/International Regulations

EC Classification Xi Irritant

EC Risk and Safety Phrases: R36 irritating to eyes
R37 irritating to respiratory system
R38 irritating to skin

Risk Phrases: None

Safety Phrases: S23 Keep out of reach of children
S24 Avoid skin contact.
S25 Avoid contact with eyes
S26 In case of contact with eyes, rinse immediately with water and seek medical advice
S46 If swallowed, see medical advice immediately and show this container to label

XVI. Other Information

Key Legend Information:

N/A – Not Applicable

ND – Not Determined

ACGIH – American Conference of Governmental Industrial Hygienists

OSHA – Occupational Safety and Health Administration

TLV – Threshold Limit Value

PEL – Permissible Exposure Limit

TWA – Time Weighted Average

STEL – Short Term Exposure Limit

NTP – National Toxicology Program

IARC – International Agency for Research on Cancer

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MATERIAL SAFETY DATA SHEET

SECTION 1 Chemical Product and Company Identification

Product Name: 1M Tris
Catalog Number: S-4015-100

Company Identification

Solulink, Incorporated
9853 Pacific Heights Blvd, Suite H
San Diego, California 92121

Phone: (858) 625-0670
Fax: (858) 625-0770

In case of emergency Call CHEMTREC: USA 1-800-262-8200

Validation Date: DATE: July 24, 2008

SECTION 2 COMPOSITION/INGREDIENTS

<u>Ingredient name:</u>	<u>CAS Number:</u>	<u>%:</u>
Tris (tris(hydroxymethyl) aminomethane	77-86-1	12
Water	7732-18-5	88

SECTION 3 PHYSICAL AND CHEMICAL PROPERTIES

Physical state: Liquid
Appearance: Clear
Percent Purity: 12%
Boiling Point: Not tested
Freezing Point: Not tested
pH: 8.9
Solubility: Aqueous
Vapor Density: Not tested
Vapor Pressure: Not tested

SECTION 4 HAZARDS IDENTIFICATION

Emergency Overview: Warning harmful material that if swallowed or inhaled causes irritation to skin, eyes, and respiratory tract.

Causes damage to the following organs: mucus membranes, gastrointestinal tract, skin, eyes, stomach.

Routes of entry: Absorbed through skin. Eye contact. Inhalation. Ingestion.

Carcinogenic effects: IARC (1,2A or 2B) : Not listed

Mutagenic effects: Not listed

Teratogenic effects: Not listed

Reproductive toxicity: Not listed

Avoid contact with skin and clothing. Wash thoroughly after handling.

HMIS Rating:

Health: 2

Flammability: 0

Reactivity: 0

NFPA Rating:

Health: 2

Flammability: 0

Reactivity: 0

SECTION 5 EXPOSURE CONTROLS – PERSONAL PROTECTION

Gloves: Wear chemical-resistant gloves

Eye: Wear appropriate chemical safety goggles as described by 29CFR1910.133 or European standards EN166. Maintain eye wash and safety shower in work area.

Respirator: A respiratory protection program that meets OSHA 29 CFR 1910.134 and ANSI Z88 requirements or EN149 must be followed whenever workplace conditions warrant a respirator's use.

Clothing: Wear appropriate lab coat to prevent skin exposure

Footwear: Wear closed shoes

SECTION 6 FIRST AID MEASURES

Notice to Reader: Get immediate medical attention

Eye contact: Immediately flush eyes with copious amounts of water for at least 15 minutes (caustic irritant). Get medical attention.

Skin: Immediately wash skin with soap and copious amounts of water for 15 minutes. Remove contaminated clothing and shoes. Get medical attention. Wash all exposed clothing and shoes before reuse.

Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult give oxygen

Ingestion: If swallowed, wash out mouth with water provided person is conscious. Call a physician immediately. Do not induce vomiting unless directed to do so by medical personnel

SECTION 7 FIRE FIGHTING MEASURES

Flammable	Slightly flammable
Upper Flammable Limit:	Not tested
Lower Flammable Limit:	Not tested
Upper Explosion Limit:	Not tested
Lower Explosion Limit:	Not tested
Flashpoint:	Not tested
Auto ignition Temperature:	Not tested
Fire Extinguishing Media:	Small fire: Water spray, dry chemical powder, or carbon dioxide
Unusual Fire/Explosion Data:	Large fire: Water spray, fog or foam

SECTION 8 ACCIDENTAL RELEASE

Ventilate area of spill. Wear appropriate protective equipment as specified in Section 5. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Contain and recover liquid whenever possible. Collect liquid in an appropriate container or absorb with an inert material (e.g. vermiculite, dry sand, earth), and place in chemical waste container. Do not use combustible materials such as sawdust. Do not flush to sewer.

SECTION 9 HANDLING AND STORAGE

Use with adequate ventilation. Avoid contact with eyes, skin, and clothing. Avoid ingestion and inhalation.

Store in tightly sealed container at room temperature. Protect against physical damage. Isolate from incompatible substances.

SECTION 10 WASTE DISPOSAL

Contact a licensed professional waste disposal service to dispose of this material. Observe all federal, State and local environmental regulations.

Section 11 TOXICOLOGICAL INFORMATION

Toxic Effects on Humans: Hazardous in case of eye contact, ingestion, or inhalation
(lung irritant)

Special Remarks on Toxicity to Animals: Not tested

Special Remarks on Chronic Effects on Humans: Not tested

Special Remarks on Other Toxic Effects on Humans: Irritant to eyes (caustic), skin and respiratory system.

Section 12 ECOLOGICAL INFORMATION

Aquatic toxicity: Not tested

Section 13 TRANSPORT INFORMATION

Special shipping information

PIN: Not listed

TDG: Not listed

DOT: Not listed

IMO: Not listed

ACAO: Not listed

Section 15 REGULATORY INFORMATION

OSH :Not listed

SARA: Not listed

TSCA: Not listed

Solulink, Inc. believes the above information to be accurate, but not necessarily all inclusive, and thus should only be used as a guide in the handling and use of this material. The data in this MSDS relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process. Solulink, Inc. shall not take responsibility for any damage resulting from handling or from contact with the above product. The information in this material safety data sheet meets the requirements of the United States Occupational Safety and Health Act and regulations promulgated thereunder 29 CFR § 1910.1200.

Material Safety Data Sheet

1. Product and company identification

Product name : Zeba™ Desalting Resin
Synonym : Zeba™ Desalt Columns; Zeba™ 96-Well Desalt Plates; Chromix™ Desalting Columns; Zeba™ Desalt Columns, 7K MWCO

Supplier : Solulink
9853 Pacific Heights Blvd
Suite H
San Diego, CA 92121
United States
858-625-0670
or
800.625.0670

Manufacturer : Thermo Fisher Scientific
Pierce Biotechnology
P.O. Box 117
Rockford, IL 61105
United States
815.968.0747
800.874.3723

Product No. : 0089877 0089877S 0089878 0089882 0089882S 0089883 0089889 0089890 0089891 0089891S 0089892 0089893 0089894 0089934 0089935 1859836 1859836 1860080 1860739 1861573 1862296

MSDS # : 7593
Validation date : 2/26/2010.
Print date : 2/26/2010.
Responsible name : **MSDS Specialist**
In case of emergency : CHEMTREC: **Use of Substance/Preparation**
800.424.9300
OUTSIDE US: 202.483.7616

Refer to the instruction booklet for proper and intended use. Otherwise, contact supplier for specific applications.

2. Hazards identification

Physical state : Liquid. [slurry gel]
OSHA/HCS status : While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this MSDS contains valuable information critical to the safe handling and proper use of the product. This MSDS should be retained and available for employees and other users of this product.

Emergency overview : NOT EXPECTED TO PRODUCE SIGNIFICANT ADVERSE HEALTH EFFECTS WHEN THE RECOMMENDED INSTRUCTIONS FOR USE ARE FOLLOWED.
No known significant effects or critical hazards. Avoid prolonged contact with eyes, skin and clothing.

Routes of entry : Eye contact. Inhalation. Ingestion.

Potential acute health effects

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

Potential chronic health effects

Chronic effects : No known significant effects or critical hazards.
Carcinogenicity : No known significant effects or critical hazards.

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Zeba™ Desalting Resin

2. Hazards identification

Mutagenicity : No known significant effects or critical hazards.
Teratogenicity : No known significant effects or critical hazards.
Developmental effects : No known significant effects or critical hazards.
Fertility effects : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Inhalation : No specific data.
Ingestion : No specific data.
Skin : No specific data.
Eyes : No specific data.

Medical conditions aggravated by over-exposure : None known.

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

Classification : Not classified.

See toxicological information (section 11)

3. Composition/information on ingredients

Substance/preparation : Preparation

There are no ingredients or additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

4. First aid measures

- Inhalation** : Move exposed person to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Get medical attention if symptoms occur. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Ingestion** : Wash out mouth with water. Remove dentures if any. Move exposed person to fresh air. Keep person warm and at rest. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if symptoms occur. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Eye contact** : Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training.
- See section 11 for more detailed information on health effects and symptoms.**

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Zeba™ Desalting Resin

5. Fire-fighting measures

- Flammability of the product** : In a fire or if heated, a pressure increase will occur and the container may burst.
- Extinguishing media**
- Suitable** : Use an extinguishing agent suitable for the surrounding fire.
- Not suitable** : None known.
- Special exposure hazards** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
- Hazardous combustion products** : No specific data.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6. Accidental release measures

- Personal precautions** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8).
- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
- Large spill** : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal.
- Small spill** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble or absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

7. Handling and storage

- Handling** : Put on appropriate personal protective equipment (see section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Storage** : Store between the following temperatures: 2 to 8 °C (35.6 to 46.4 °F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

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8. Exposure controls/personal protection

Europe

No exposure limit value known.

Consult local authorities for acceptable exposure limits.

Recommended monitoring : If this product contains ingredients with exposure limits, personal, workplace atmosphere **procedures** or biological monitoring may be required to determine the effectiveness of the ventilation

Engineering measures : or other control measures and/or the necessity to use respiratory protective equipment.
: No special ventilation requirements. Good general ventilation should be sufficient to control worker exposure to airborne contaminants. If this product contains ingredients with exposure limits, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.

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

Personal protection

Respiratory

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

Hands

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

Eyes

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

Skin

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

Environmental exposure controls

: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

9. Physical and chemical properties

- Physical state** : Liquid. [slurry gel]
Color : White.
Relative density : 1.22
Dispersibility properties : Easily dispersible in the following materials: cold water and hot water.

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10. Stability and reactivity

- Chemical stability** : The product is stable. Under normal conditions of storage and use, hazardous polymerization will not occur.
Conditions to avoid : No specific data.
Incompatible materials : No specific data.
Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Possibility of hazardous reactions : Will not occur.

11. Toxicological information

United States

Acute toxicity

Conclusion/Summary : To the best of our knowledge, the toxicological properties of this product have not been thoroughly investigated.

Chronic toxicity

Conclusion/Summary : Not available.

Carcinogenicity

Conclusion/Summary : Not available.

Mutagenicity

Conclusion/Summary : Not available.

[Teratogenicity](#)

Conclusion/Summary : Not available.

[Reproductive toxicity](#)

Conclusion/Summary : Not available.

[Europe](#)

Chronic effects : No known significant effects or critical hazards.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

12. Ecological information

Environmental effects : No known significant effects or critical hazards.

[United States](#)

[Aquatic ecotoxicity](#)

Conclusion/Summary : Not available.

Other adverse effects : No known significant effects or critical hazards.

13 . Disposal considerations

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

Hazardous waste : Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 91/689/EEC.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

14 . Transport information

Regulatory information	UN number	Proper shipping name	Classes	PG*
DOT Classification	Not regulated.	-	-	-
IATA-DGR Class	Not regulated.	-	-	-

PG* : Packing group

15 . Regulatory information

United States

HCS Classification : Not regulated.

U.S. Federal regulations : **United States inventory (TSCA 8b)**: All components are listed or exempted.
SARA 302/304/311/312 extremely hazardous substances: No products were found.
SARA 302/304 emergency planning and notification: No products were found.
SARA 302/304/311/312 hazardous chemicals: No products were found.
SARA 311/312 MSDS distribution - chemical inventory - hazard identification: No products were found.

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

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

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

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

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

Canada

WHMIS (Canada) : Not controlled under WHMIS (Canada).

Canadian lists : **CEPA Toxic substances**: None of the components are listed.
Canadian ARET: None of the components are listed.
Canadian NPRI: None of the components are listed.
Alberta Designated Substances: None of the components are listed.
Ontario Designated Substances: None of the components are listed.
Quebec Designated Substances: None of the components are listed.

Canada inventory : **Canada inventory**: All components are listed or exempted.

15 . Regulatory information

[EU regulations](#)

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

[International regulations](#)

[International lists](#)

: **Australia inventory (AICS)**: All components are listed or exempted.
: **China inventory (IECSC)**: All components are listed or exempted.
: **Korea inventory (KECI)**: All components are listed or exempted.
: **Philippines inventory (PICCS)**: All components are listed or exempted.
: **Japan inventory (ENCS)**: All components are listed or exempted.

16 . Other information

Label requirements : NOT EXPECTED TO PRODUCE SIGNIFICANT ADVERSE HEALTH EFFECTS WHEN THE RECOMMENDED INSTRUCTIONS FOR USE ARE FOLLOWED.

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

Health	0
Flammability	0
Physical hazards	0

The customer is responsible for determining the PPE code for this material.

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



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Version : 1.04

Indicates information that has changed from previously issued version.

[Notice to reader](#)

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

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.