

# Sephadex Stripping/Regeneration Buffer

sc-296378



The Power is Question

Material Safety Data Sheet

Hazard Alert Code Key: **EXTREME** **HIGH** **MODERATE** **LOW**

## Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

### PRODUCT NAME

Sephadex Stripping/Regeneration Buffer

### STATEMENT OF HAZARDOUS NATURE

CONSIDERED A HAZARDOUS SUBSTANCE ACCORDING TO OSHA 29 CFR 1910.1200.

### NFPA



### SUPPLIER

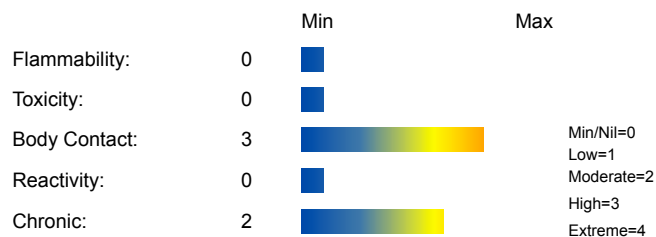
Santa Cruz Biotechnology, Inc.  
2145 Delaware Avenue  
Santa Cruz, California 95060  
800.457.3801 or 831.457.3800

### EMERGENCY

ChemWatch  
Within the US & Canada: 877-715-9305  
Outside the US & Canada: +800 2436 2255  
(1-800-CHEMCALL) or call +613 9573 3112

## Section 2 - HAZARDS IDENTIFICATION

### CHEMWATCH HAZARD RATINGS



### CANADIAN WHMIS SYMBOLS



### EMERGENCY OVERVIEW

#### RISK

Irritating to eyes and skin.

## POTENTIAL HEALTH EFFECTS

### ACUTE HEALTH EFFECTS

#### SWALLOWED

- The material has NOT been classified as "harmful by ingestion". This is because of the lack of corroborating animal or human evidence.

#### EYE

- This material can cause eye irritation and damage in some persons.

#### SKIN

- Skin contact is not thought to have harmful health effects, however the material may still produce health damage following entry through wounds, lesions or abrasions.
- This material can cause inflammation of the skin on contact in some persons.
- The material may accentuate any pre-existing dermatitis condition.
- Open cuts, abraded or irritated skin should not be exposed to this material.

#### INHALED

- The material is not thought to produce adverse health effects or irritation of the respiratory tract (as classified using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting.
- Not normally a hazard due to non-volatile nature of product.

### CHRONIC HEALTH EFFECTS

- Prolonged or repeated skin contact may cause drying with cracking, irritation and possible dermatitis following. As with any chemical product, contact with unprotected bare skin; inhalation of vapor, mist or dust in work place atmosphere; or ingestion in any form, should be avoided by observing good occupational work practice.

## Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
<a href="#">sodium hydroxide</a>	1310-73-2	~1
<a href="#">water</a>	7732-18-5	>98

## Section 4 - FIRST AID MEASURES

#### SWALLOWED

- If swallowed do NOT induce vomiting. · If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.

#### EYE

- If this product comes in contact with the eyes: · Wash out immediately with fresh running water. · Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.

#### SKIN

- If skin contact occurs: · Immediately remove all contaminated clothing, including footwear · Flush skin and hair with running water (and soap if available).

#### INHALED

- If fumes or combustion products are inhaled remove from contaminated area. · Lay patient down. Keep warm and rested.

### NOTES TO PHYSICIAN

- Treat symptomatically.

for corrosives:

-----BASIC TREATMENT

- Establish a patent airway with suction where necessary.
- Watch for signs of respiratory insufficiency and assist ventilation as necessary.

## Section 5 - FIRE FIGHTING MEASURES

Vapour Pressure (mmHG):	Not Available
Upper Explosive Limit (%):	Not Applicable
Specific Gravity (water=1):	Not Available
Lower Explosive Limit (%):	Not Applicable

### EXTINGUISHING MEDIA

- Water spray or fog.
- Foam.

### FIRE FIGHTING

- Alert Emergency Responders and tell them location and nature of hazard.
- Wear full body protective clothing with breathing apparatus.

When any large container (including road and rail tankers) is involved in a fire, consider evacuation by 800 metres in all directions.

### GENERAL FIRE HAZARDS/HAZARDOUS COMBUSTIBLE PRODUCTS

- Non combustible.
  - Not considered to be a significant fire risk, however containers may burn.
- May emit corrosive fumes.  
May emit poisonous fumes.

### FIRE INCOMPATIBILITY

- None known.

### PERSONAL PROTECTION

Glasses:

Chemical goggles.

Gloves:

1.BUTYL 2.NEOPRENE 3.VITON

Respirator:

Particulate

## Section 6 - ACCIDENTAL RELEASE MEASURES

### MINOR SPILLS

- Drains for storage or use areas should have retention basins for pH adjustments and dilution of spills before discharge or disposal of material.
- Check regularly for spills and leaks.
- Clean up all spills immediately.
- Avoid breathing vapors and contact with skin and eyes.

### MAJOR SPILLS

- Clear area of personnel and move upwind.
- Alert Emergency Responders and tell them location and nature of hazard.

## Section 7 - HANDLING AND STORAGE

### PROCEDURE FOR HANDLING

- DO NOT allow clothing wet with material to stay in contact with skin.
- Avoid all personal contact, including inhalation.
- Wear protective clothing when risk of exposure occurs.

### RECOMMENDED STORAGE METHODS

- Lined metal can, Lined metal pail/drum
- Plastic pail.

For low viscosity materials

- Drums and jerricans must be of the non-removable head type.
- Where a can is to be used as an inner package, the can must have a screwed enclosure.

### STORAGE REQUIREMENTS

- Store in original containers.
- Keep containers securely sealed.
- Store at room temperature.

## Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

### EXPOSURE CONTROLS

Source	Material	TWA ppm	TWA mg/m <sup>3</sup>	STEL ppm	STEL mg/m <sup>3</sup>	Peak ppm	Peak mg/m <sup>3</sup>	TWA F/CC	Notes
Canada - Alberta Occupational Exposure Limits	sodium hydroxide (Sodium hydroxide)						2		
Canada - British Columbia Occupational Exposure Limits	sodium hydroxide (Sodium hydroxide)						2		
US - Minnesota Permissible Exposure Limits (PELs)	sodium hydroxide (Sodium hydroxide)						2		

US OSHA Permissible Exposure Levels (PELs) - Table Z1	sodium hydroxide (Sodium hydroxide)	2			
US ACGIH Threshold Limit Values (TLV)	sodium hydroxide (Sodium hydroxide)		2		TLV Basis: upper respiratory tract, eye & skin irritation
US NIOSH Recommended Exposure Limits (RELs)	sodium hydroxide (Sodium hydroxide)		2		
US - Tennessee Occupational Exposure Limits - Limits For Air Contaminants	sodium hydroxide (Sodium hydroxide)		2		
US - Vermont Permissible Exposure Limits Table Z-1-A Transitional Limits for Air Contaminants	sodium hydroxide (Sodium hydroxide)	2			
US - Vermont Permissible Exposure Limits Table Z-1-A Final Rule Limits for Air Contaminants	sodium hydroxide (Sodium hydroxide)		2		
US - California Permissible Exposure Limits for Chemical Contaminants	sodium hydroxide (Sodium hydroxide; caustic soda)	2		C	
US - Idaho - Limits for Air Contaminants	sodium hydroxide (Sodium hydroxide)	2			
US - Hawaii Air Contaminant Limits	sodium hydroxide (Sodium hydroxide)		2		
US - Alaska Limits for Air Contaminants	sodium hydroxide (Sodium hydroxide)		2		
US - Michigan Exposure Limits for Air Contaminants	sodium hydroxide (Sodium hydroxide)		2		
Canada - Yukon Permissible Concentrations for Airborne Contaminant Substances	sodium hydroxide (Sodium hydroxide)	-	2	-	-
US - Washington Permissible exposure limits of air contaminants	sodium hydroxide (Sodium hydroxide)		2		
Canada - Saskatchewan Occupational Health and Safety Regulations -	sodium hydroxide (Sodium hydroxide)		2		

Contamination Limits			
Canada - Prince Edward Island Occupational Exposure Limits	sodium hydroxide (Sodium hydroxide)	2	TLV Basis: upper respiratory tract, eye & skin irritation
US - Wyoming Toxic and Hazardous Substances Table Z1 Limits for Air Contaminants	sodium hydroxide (Sodium hydroxide)	2	
Canada - Quebec Permissible Exposure Values for Airborne Contaminants (English)	sodium hydroxide (Sodium hydroxide)	2	
US - Oregon Permissible Exposure Limits (Z-1)	sodium hydroxide (Sodium hydroxide)	- 2	
Canada - Northwest Territories Occupational Exposure Limits (English)	sodium hydroxide (Sodium hydroxide)	2	
Canada - Nova Scotia Occupational Exposure Limits	sodium hydroxide (Sodium hydroxide)	2	TLV Basis: upper respiratory tract, eye & skin irritation

#### ENDOELTABLE

The following materials had no OELs on our records

- water: CAS:7732-18-5

#### PERSONAL PROTECTION



#### RESPIRATOR

- particulate. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

Consult your EHS staff for recommendations

#### EYE

- Safety glasses with side shields.
- Chemical goggles.

#### HANDS/FEET

- Wear chemical protective gloves, eg. PVC.

Suitability and durability of glove type is dependent on usage. Important factors in the selection of gloves include: such as:

- frequency and duration of contact,
- chemical resistance of glove material,
- glove thickness and
- dexterity

Select gloves tested to a relevant standard (e.g. Europe EN 374, US F739, AS/NZS 2161.1 or national equivalent).

- When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time greater than 240 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended.

- When only brief contact is expected, a glove with a protection class of 3 or higher (breakthrough time greater than 60 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended.

- Contaminated gloves should be replaced.

Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturiser is recommended.

## OTHER

- Overalls.
- PVC Apron.

## ENGINEERING CONTROLS

- General exhaust is adequate under normal operating conditions. Local exhaust ventilation may be required in special circumstances.

## Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

### PHYSICAL PROPERTIES

Liquid.  
Mixes with water.  
Corrosive.

State	Liquid	Molecular Weight	Not Applicable
Melting Range (°F)	Not Available	Viscosity	Not Available
Boiling Range (°F)	Not Available	Solubility in water (g/L)	Miscible
Flash Point (°F)	Not Applicable	pH (1% solution)	Not Available
Decomposition Temp (°F)	Not Available	pH (as supplied)	Not Available
Autoignition Temp (°F)	Not Applicable	Vapour Pressure (mmHG)	Not Available
Upper Explosive Limit (%)	Not Applicable	Specific Gravity (water=1)	Not Available
Lower Explosive Limit (%)	Not Applicable	Relative Vapor Density (air=1)	Not Available
Volatile Component (%vol)	Not Available	Evaporation Rate	Not Available

### APPEARANCE

Liquid; mixes with water.

## Section 10 - CHEMICAL STABILITY

### CONDITIONS CONTRIBUTING TO INSTABILITY

- Presence of incompatible materials.
- Product is considered stable.

### STORAGE INCOMPATIBILITY

- Avoid strong acids.

For incompatible materials - refer to Section 7 - Handling and Storage.

## Section 11 - TOXICOLOGICAL INFORMATION

sodium hydroxide 0.2M

### TOXICITY AND IRRITATION

SODIUM HYDROXIDE 0.2M:

- Not available. Refer to individual constituents.

SODIUM HYDROXIDE:

- unless otherwise specified data extracted from RTECS - Register of Toxic Effects of Chemical Substances.

TOXICITY	IRRITATION
	Skin (rabbit): 500 mg/24h SEVERE
	Eye (rabbit): 0.05 mg/24h SEVERE
	Eye (rabbit):1 mg/24h SEVERE
	Eye (rabbit):1 mg/30s rinsed-SEVERE

■ Asthma-like symptoms may continue for months or even years after exposure to the material ceases. This may be due to a non-allergenic condition known as reactive airways dysfunction syndrome (RADS) which can occur following exposure to high levels of highly irritating compound. Key criteria for the diagnosis of RADS include the absence of preceding respiratory disease, in a non-atopic individual, with abrupt onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. A reversible airflow pattern, on spirometry, with the presence of moderate to severe bronchial hyperreactivity on methacholine challenge testing and the lack of minimal lymphocytic inflammation, without eosinophilia, have also been included in the criteria for diagnosis of RADS. RADS (or asthma) following an irritating inhalation is an infrequent disorder with rates related to the concentration of and duration of exposure to the irritating substance. Industrial bronchitis, on the other hand, is a disorder that occurs as result of exposure due to high concentrations of irritating substance (often particulate in nature) and is completely reversible after exposure ceases. The disorder is characterised by dyspnea, cough and mucus production.

The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.

The material may cause severe skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin. Repeated exposures may produce severe ulceration.

**WATER:**

- No significant acute toxicological data identified in literature search.

**CARCINOGEN**

sodium hydroxide	US - Rhode Island Hazardous Substance List	IARC
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**SKIN**

sodium hydroxide	US - California OEHHA/ARB - Acute Reference Exposure Levels and Target Organs (RELS) - Skin	Skin	X
sodium hydroxide	US - California OEHHA/ARB - Chronic Reference Exposure Levels and Target Organs (CRELs) - Skin	Skin	X
sodium hydroxide	US - Hawaii Air Contaminant Limits - Skin Designation	Skin Designation	X
sodium hydroxide	US - Oregon Permissible Exposure Limits (Z2) - Skin	Skin	X
sodium hydroxide	US - California Permissible Exposure Limits for Chemical Contaminants - Skin	Skin	X

**Section 12 - ECOLOGICAL INFORMATION**

This material and its container must be disposed of as hazardous waste.

**Ecotoxicity**

Ingredient	Persistence: Water/Soil	Persistence: Air	Bioaccumulation	Mobility
sodium hydroxide 0.2M	No Data Available	No Data Available		
sodium hydroxide	LOW	No Data Available	LOW	HIGH

**Section 13 - DISPOSAL CONSIDERATIONS****US EPA Waste Number & Descriptions**

A. General Product Information

Corrosivity characteristic: use EPA hazardous waste number D002 (waste code C)

**Disposal Instructions**

All waste must be handled in accordance with local, state and federal regulations.

! Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. In some areas, certain wastes must be tracked.

A Hierarchy of Controls seems to be common - the user should investigate:

- Reduction
- Reuse
- Recycling
- Disposal (if all else fails)

This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use. If it has been contaminated, it may be possible to reclaim the product by filtration, distillation or some other means. Shelf life considerations should also be applied in making decisions of this type. Note that properties of a material may change in use, and recycling or reuse may not always be appropriate.

DO NOT allow wash water from cleaning equipment to enter drains. Collect all wash water for treatment before disposal.

- Recycle wherever possible.
- Consult manufacturer for recycling options or consult Waste Management Authority for disposal if no suitable treatment or disposal facility can be identified.

**Section 14 - TRANSPORTATION INFORMATION**

DOT:

Symbols: None Hazard class or Division: 8

Identification Numbers: UN1824 PG: III

Label Codes: 8 Special provisions: IB3, N34, T4, TP1

Packaging: Exceptions: 154 Packaging: Non- bulk: 203

Packaging: Exceptions: 154 Quantity limitations: 5 L

Passenger aircraft/rail:

Quantity Limitations: Cargo 60 L Vessel stowage: Location: A aircraft only:

Vessel stowage: Other: 52.

Hazardous materials descriptions and proper shipping names:

Sodium hydroxide solution

**Air Transport IATA:**

UN/ID Number: 1824 Packing Group: III  
Special provisions: A3  
Cargo Only  
Packing Instructions: 60 L Maximum Qty/Pack: 856  
Passenger and Cargo Passenger and Cargo  
Packing Instructions: 5 L Maximum Qty/Pack: 852  
Passenger and Cargo Limited Quantity Passenger and Cargo Limited Quantity  
Packing Instructions: 1 L Maximum Qty/Pack: Y841  
Shipping Name: SODIUM HYDROXIDE SOLUTION

#### Maritime Transport IMDG:

IMDG Class: 8 IMDG Subrisk: None  
UN Number: 1824 Packing Group: III  
EMS Number: F-A,S-B Special provisions: 223  
Limited Quantities: 5 L  
Shipping Name: SODIUM HYDROXIDE SOLUTION

## Section 15 - REGULATORY INFORMATION

### Regulations for ingredients

#### **sodium hydroxide (CAS: 1310-73-2,12200-64-5) is found on the following regulatory lists;**

"Canada - Alberta Occupational Exposure Limits", "Canada - British Columbia Occupational Exposure Limits", "Canada - Northwest Territories Occupational Exposure Limits (English)", "Canada - Nova Scotia Occupational Exposure Limits", "Canada - Prince Edward Island Occupational Exposure Limits", "Canada - Quebec Permissible Exposure Values for Airborne Contaminants (English)", "Canada - Saskatchewan Industrial Hazardous Substances", "Canada - Saskatchewan Occupational Health and Safety Regulations - Contamination Limits", "Canada - Yukon Permissible Concentrations for Airborne Contaminant Substances", "Canada Domestic Substances List (DSL)", "Canada Ingredient Disclosure List (SOR/88-64)", "Canada Toxicological Index Service - Workplace Hazardous Materials Information System - WHMIS (English)", "CODEX General Standard for Food Additives (GSFA) - Additives Permitted for Use in Food in General, Unless Otherwise Specified, in Accordance with GMP", "GESAMP/EHS Composite List - GESAMP Hazard Profiles", "IMO IBC Code Chapter 17: Summary of minimum requirements", "International Council of Chemical Associations (ICCA) - High Production Volume List", "International Fragrance Association (IFRA) Survey: Transparency List", "US - Alaska Limits for Air Contaminants", "US - California Air Toxics ""Hot Spots"" List (Assembly Bill 2588) Substances for which emissions must be quantified", "US - California Occupational Safety and Health Regulations (CAL/OSHA) - Hazardous Substances List", "US - California OEHHA/ARB - Acute Reference Exposure Levels and Target Organs (RELs)", "US - California Permissible Exposure Limits for Chemical Contaminants", "US - California Toxic Air Contaminant List Category II", "US - Connecticut Hazardous Air Pollutants", "US - Hawaii Air Contaminant Limits", "US - Idaho - Limits for Air Contaminants", "US - Massachusetts Oil & Hazardous Material List", "US - Michigan Exposure Limits for Air Contaminants", "US - Minnesota Hazardous Substance List", "US - Minnesota Permissible Exposure Limits (PELs)", "US - New Jersey Right to Know Hazardous Substances", "US - Oregon Permissible Exposure Limits (Z-1)", "US - Pennsylvania - Hazardous Substance List", "US - Rhode Island Hazardous Substance List", "US - Tennessee Occupational Exposure Limits - Limits For Air Contaminants", "US - Vermont Permissible Exposure Limits Table Z-1-A Final Rule Limits for Air Contaminants", "US - Vermont Permissible Exposure Limits Table Z-1-A Transitional Limits for Air Contaminants", "US - Washington Permissible exposure limits of air contaminants", "US - Wyoming Toxic and Hazardous Substances Table Z1 Limits for Air Contaminants", "US ACGIH Threshold Limit Values (TLV)", "US CWA (Clean Water Act) - List of Hazardous Substances", "US CWA (Clean Water Act) - Reportable Quantities of Designated Hazardous Substances", "US Department of Transportation (DOT) List of Hazardous Substances and Reportable Quantities - Hazardous Substances Other Than Radionuclides", "US DOE Temporary Emergency Exposure Limits (TEELs)", "US EPA High Production Volume Chemicals Additional List", "US Food Additive Database", "US List of Lists - Consolidated List of Chemicals Subject to EPCRA, CERCLA and Section 112(r) of the Clean Air Act", "US NIOSH Recommended Exposure Limits (RELs)", "US OSHA Permissible Exposure Levels (PELs) - Table Z1", "US Postal Service (USPS) Hazardous Materials Table: Postal Service Mailability Guide", "US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory"

#### **water (CAS: 7732-18-5) is found on the following regulatory lists;**

"Canada Domestic Substances List (DSL)", "Canada Toxicological Index Service - Workplace Hazardous Materials Information System - WHMIS (English)", "IMO IBC Code Chapter 18: List of products to which the Code does not apply", "International Fragrance Association (IFRA) Survey: Transparency List", "US - Pennsylvania - Hazardous Substance List", "US DOE Temporary Emergency Exposure Limits (TEELs)", "US NFPA 30B Manufacture and Storage of Aerosol Products - Chemical Heat of Combustion", "US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory", "US TSCA Section 8 (a) Inventory Update Rule (IUR) - Partial Exemptions"

#### **No data for sodium hydroxide 0.2M (CW: 22-5325)**

## Section 16 - OTHER INFORMATION

### LIMITED EVIDENCE

■ Cumulative effects may result following exposure\*.

\* (limited evidence).

### Ingredients with multiple CAS Nos

Ingredient Name CAS sodium hydroxide 1310-73-2, 12200-64-5

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■ Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent

review by the Chemwatch Classification committee using available literature references.

A list of reference resources used to assist the committee may be found at:

[www.chemwatch.net/references](http://www.chemwatch.net/references).

■ The (M)SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

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