



# Material Safety Data Sheet

<b>NFPA</b>  	<b>HMIS</b>  <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="background-color: #00FFFF;">Health Hazard</td> <td style="text-align: center;">2</td> </tr> <tr> <td style="background-color: #FFCCCC;">Fire Hazard</td> <td style="text-align: center;">0</td> </tr> <tr> <td style="background-color: #FFFF00;">Reactivity</td> <td style="text-align: center;">0</td> </tr> </table>	Health Hazard	2	Fire Hazard	0	Reactivity	0	<b>Personal Protective Equipment</b>    See Section 15.
Health Hazard	2							
Fire Hazard	0							
Reactivity	0							

Section 1. Chemical Product and Company Identification		Page Number: 1
<b>Common Name/Trade Name</b>	Page 4% Solution, Electrophoretic	<b>Catalog Number(s).</b> P1031
<b>Manufacturer</b>	SPECTRUM LABORATORY PRODUCTS INC. 14422 S. SAN PEDRO STREET GARDENA, CA 90248	<b>CAS#</b> Mixture.
<b>Commercial Name(s)</b>	Not available.	<b>RTECS</b> Not applicable.
<b>Synonym</b>	Page 4% Solution, Electrophoretic; Polyacrylamide Gel Electrophoresis	<b>TSCA</b> TSCA 8(b) inventory: N,N'-methylenebisacrylamide; Urea; Tromethamine; Boric acid; Water; Acrylamide
<b>Chemical Name</b>	Not applicable.	<b>CI#</b> Not applicable.
<b>Chemical Family</b>	Aliphatic amide (Aliphatic.)	<b>IN CASE OF EMERGENCY</b> <a href="tel:8004249300">CHEMTREC (24hr) 800-424-9300</a>  CALL (310) 516-8000
<b>Chemical Formula</b>	Not applicable.	
<b>Supplier</b>	SPECTRUM LABORATORY PRODUCTS INC. 14422 S. SAN PEDRO STREET GARDENA, CA 90248	

Section 2. Composition and Information on Ingredients					
Name	CAS #	Exposure Limits			% by Weight
		TWA (mg/m <sup>3</sup> )	STEL (mg/m <sup>3</sup> )	CEIL (mg/m <sup>3</sup> )	
1) {N,N'-}methylenebisacrylamide	110-26-9				0.5-1
2) Urea	57-13-6				0.5-1
3) Tromethamine	77-86-1				0.5-1
4) Boric acid	10043-35-3				0.5-1
5) Water	7732-18-5				89-90
6) Acrylamide	79-06-1	0.03			7-8
<b>Toxicological Data on Ingredients</b>	<b>N,N'-methylenebisacrylamide:</b> ORAL (LD50): Acute: 390 mg/kg [Rat]. 380 mg/kg [Mouse]. <b>Urea:</b> ORAL (LD50): Acute: 8471 mg/kg [Rat]. 11000 mg/kg [Mouse]. <b>Tromethamine:</b> ORAL (LD50): Acute: 5900 mg/kg [Rat]. <b>Boric acid:</b> ORAL (LD50): Acute: 2660 mg/kg [Rat]. 3450 mg/kg [Mouse]. <b>Acrylamide:</b> ORAL (LD50): Acute: 124 mg/kg [Rat.]. 107 mg/kg [Mouse]. 150 mg/kg [Rabbit]. DERMAL (LD50): Acute: 400 mg/kg [Rat]. 1680 mg/kg [Rabbit].				

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**Section 3. Hazards Identification**

<b>Potential Acute Health Effects</b>	Hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation. Slightly hazardous in case of skin contact (permeator). Non-corrosive for skin. Severe over-exposure can result in death.
<b>Potential Chronic Health Effects</b>	<p><b>CARCINOGENIC EFFECTS:</b> Classified + (Proven.) by OSHA+ (Proven.) by NIOSH [Acrylamide]. Classified A3 (Proven for animal.) by ACGIH [Acrylamide]. Classified 2A (Probable for human.) by IARC, 2 (Some evidence.) by NTP, 2 (Suspected for human.) by European Union [Acrylamide].</p> <p><b>MUTAGENIC EFFECTS:</b> Mutagenic for bacteria and/or yeast. [N,N'-methylenebisacrylamide]. Mutagenic for mammalian somatic cells. [Urea]. Mutagenic for bacteria and/or yeast. [Boric acid]. Mutagenic for mammalian somatic cells. [Acrylamide].</p> <p><b>TERATOGENIC EFFECTS:</b> Not available.</p> <p><b>DEVELOPMENTAL TOXICITY:</b> Classified Reproductive system/toxin/female, Reproductive system/toxin/male [POSSIBLE] [Boric acid]. Classified Reproductive system/toxin/male [POSSIBLE] [Acrylamide].</p> <p>The substance is toxic to lungs, mucous membranes.</p> <p>The substance may be toxic to blood, kidneys, the nervous system, cardiovascular system, central nervous system (CNS).</p> <p>Repeated or prolonged exposure to the substance can produce target organs damage. Repeated exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.</p>

**Section 4. First Aid Measures**

<b>Eye Contact</b>	Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention.
<b>Skin Contact</b>	In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cover the irritated skin with an emollient. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.
<b>Serious Skin Contact</b>	Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek immediate medical attention.
<b>Inhalation</b>	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
<b>Serious Inhalation</b>	Not available.
<b>Ingestion</b>	If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.
<b>Serious Ingestion</b>	Not available.

**Section 5. Fire and Explosion Data**

<b>Flammability of the Product</b>	Non-flammable.
<b>Auto-Ignition Temperature</b>	Not applicable.
<b>Flash Points</b>	Not applicable.
<b>Flammable Limits</b>	Not applicable.
<b>Products of Combustion</b>	Flammable hydrogen, gas, ammonia, ammonia gas, COx, NOx
<b>Fire Hazards in Presence of Various Substances</b>	Not applicable.
<b>Explosion Hazards in Presence of Various Substances</b>	Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.
<b>Fire Fighting Media and Instructions</b>	Not applicable.
<b>Special Remarks on Fire Hazards</b>	Non Flammable, but acrylamide can decompose above 85 C to release highly flammable hydrogen gas.

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**Special Remarks on Explosion Hazards** In a fire situation, serious danger of explosion

### Section 6. Accidental Release Measures

**Small Spill** Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.

**Large Spill** Poisonous liquid.  
Stop leak if without risk. Do not get water inside container. Do not touch spilled material. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

### Section 7. Handling and Storage

**Precautions** Keep locked up.. Do not ingest. Do not breathe gas/fumes/ vapor/spray. Wear suitable protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibles such as oxidizing agents, metals, acids, alkalis.

**Storage** Keep container tightly closed. Keep container in a cool, well-ventilated area. Do not store above 23°C (73.4°F). Preferably refrigerate.

### Section 8. Exposure Controls/Personal Protection

**Engineering Controls** Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value.

**Personal Protection** Splash goggles. Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

**Personal Protection in Case of a Large Spill** Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

**Exposure Limits**

**Acrylamide**  
TWA: 0.03 (mg/m<sup>3</sup>) [Australia] Inhalation  
TWA: 0.3 (mg/m<sup>3</sup>) from OSHA (PEL) [United States] Inhalation  
TWA: 0.03 (mg/m<sup>3</sup>) from NIOSH Inhalation  
TWA: 0.03 (mg/m<sup>3</sup>) from NIOSH SKIN  
TWA: 0.3 (mg/m<sup>3</sup>) [United Kingdom (UK)] Inhalation  
TWA: 0.03 (mg/m<sup>3</sup>) from ACGIH (TLV) [United States] [1999] Inhalation

Consult local authorities for acceptable exposure limits.

### Section 9. Physical and Chemical Properties

**Physical state and appearance** Liquid. **Odor** Characteristic. (Slight.)

**Molecular Weight** Not applicable. **Taste** Not available.

**pH (1% soln/water)** Neutral. **Color** Clear Colorless.

**Boiling Point** The lowest known value is 100°C (212°F) (Water).

**Melting Point** Not available.

**Critical Temperature** Not available.

**Specific Gravity** Weighted average: 1.01 (Water = 1)

**Vapor Pressure** The highest known value is 2.3 kPa (@ 20°C) (Water).

**Vapor Density** The highest known value is 0.62 (Air = 1) (Water).

**Volatility** Not available.

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<b>Odor Threshold</b>	Not available.
<b>Water/Oil Dist. Coeff.</b>	Not available.
<b>Ionicity (in Water)</b>	Not available.
<b>Dispersion Properties</b>	See solubility in water, methanol, diethyl ether, acetone.
<b>Solubility</b>	Easily soluble in cold water. Soluble in hot water, methanol. Partially soluble in diethyl ether, acetone.

### Section 10. Stability and Reactivity Data

<b>Stability</b>	The product is stable.
<b>Instability Temperature</b>	Not available.
<b>Conditions of Instability</b>	Excess heat, sunlight, incompatible materials.
<b>Incompatibility with various substances</b>	Reactive with oxidizing agents, metals, acids, alkalis.
<b>Corrosivity</b>	Non-corrosive in presence of glass.
<b>Special Remarks on Reactivity</b>	Acrylamide may polymerize violently upon contact with oxidizing materials (e.g. peroxides). May react vigorously with acids, bases, producing ammonia salts and acrylic acid.
<b>Special Remarks on Corrosivity</b>	Not available.
<b>Polymerization</b>	Yes.

### Section 11. Toxicological Information

<b>Routes of Entry</b>	Absorbed through skin. Eye contact.
<b>Toxicity to Animals</b>	Acute oral toxicity (LD50): 107 mg/kg [Mouse]. (Acrylamide). Acute dermal toxicity (LD50): 400 mg/kg [Rat]. (Acrylamide).
<b>Chronic Effects on Humans</b>	<b>CARCINOGENIC EFFECTS:</b> Classified + (Proven.) by OSHA+ (Proven.) by NIOSH [Acrylamide]. Classified A3 (Proven for animal.) by ACGIH [Acrylamide]. Classified 2A (Probable for human.) by IARC, 2 (Some evidence.) by NTP, 2 (Suspected for human.) by European Union [Acrylamide]. <b>MUTAGENIC EFFECTS:</b> Mutagenic for bacteria and/or yeast. [N,N'-methylenebisacrylamide]. Mutagenic for mammalian somatic cells. [Urea]. Mutagenic for bacteria and/or yeast. [Boric acid]. Mutagenic for mammalian somatic cells. [Acrylamide]. <b>DEVELOPMENTAL TOXICITY:</b> Classified Reproductive system/toxin/male [POSSIBLE] [Page 4% Solution, Electrophoretic]. Contains material which may cause damage to the following organs: blood, kidneys, the nervous system, cardiovascular system, central nervous system (CNS).
<b>Other Toxic Effects on Humans</b>	Hazardous in case of skin contact (irritant), of ingestion, of inhalation. Slightly hazardous in case of skin contact (permeator).
<b>Special Remarks on Toxicity to Animals</b>	Not available.
<b>Special Remarks on Chronic Effects on Humans</b>	May affect genetic material (mutagenicity). Contains Acrylamide which may cause cancer and affect genetic material and cause adverse reproductive effects (fetotoxicity and male fertility) based on animal studies. May also have tumorigenic effects based on animal studies.
<b>Special Remarks on other Toxic Effects on Humans</b>	Acute Potential Health Effects (For acrylamide. Other components are not hazardous, or are present in such minute amounts as to not present hazard). Skin: May cause skin irritation. Toxic. May be readily absorbed by skin causing neurotoxicity (affecting the brain, central nervous system and peripheral nervous system). May also affect metabolism. Eyes: Causes eye irritation characterized by tearing and temporary pain). Inhalation: Toxic. Causes respiratory tract, nose and throat) irritation. Skin exposure is the usual cause of toxicity in the workplace, but inhalation can contribute to overall exposure. Ingestion: May cause irritation of the digestive (gastrointestinal) tract. May affect behavior, Central and Peripheral nervous systems, with symptoms including change in motor activity, ataxia. May also affect metabolism, blood and cardiovascular system and urinary system.

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**Section 12. Ecological Information**

<b>Ecotoxicity</b>	Not available.
<b>BOD5 and COD</b>	Not available.
<b>Products of Biodegradation</b>	Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.
<b>Toxicity of the Products of Biodegradation</b>	The products of degradation are less toxic than the product itself.
<b>Special Remarks on the Products of Biodegradation</b>	Not available.

**Section 13. Disposal Considerations**

Waste Disposal

**Section 14. Transport Information**

<b>DOT Classification</b>	Not a DOT controlled material (United States).
<b>Identification</b>	Not applicable.
<b>Special Provisions for Transport</b>	Not applicable.
<b>DOT (Pictograms)</b>	

**Section 15. Other Regulatory Information and Pictograms**

<b>Federal and State Regulations</b>	<p>California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer, birth defects or other reproductive harm, which would require a warning under the statute: Acrylamide</p> <p>California prop. 65 (no significant risk level): Acrylamide</p> <p>California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer which would require a warning under the statute: Acrylamide</p> <p>New York release reporting list: Acrylamide</p> <p>Rhode Island RTK hazardous substances: Acrylamide</p> <p>Pennsylvania RTK: Acrylamide</p> <p>Florida: Acrylamide</p> <p>Minnesota: Urea</p> <p>Massachusetts RTK: Acrylamide</p> <p>New Jersey: Acrylamide</p> <p>TSCA 8(b) inventory: N,N'-methylenebisacrylamide; Urea; Tromethamine; Boric acid; Acrylamide</p> <p>TSCA 8(d) H and S data reporting: Acrylamide: 10/4/82; Sunset Date: 10/4/92</p> <p>TSCA 12(b) annual export notification: Acrylamide</p> <p>SARA 302/304/311/312 extremely hazardous substances: Acrylamide</p> <p>SARA 313 toxic chemical notification and release reporting: Acrylamide 7.5%</p> <p>CERCLA: Hazardous substances.: Acrylamide: 5000 lbs. (2268 kg);</p>
<b>California Proposition 65 Warnings</b>	California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer which would require a warning under the statute: Acrylamide
<b>Other Regulations</b>	OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).
<b>Other Classifications</b>	<b>WHMIS (Canada)</b> Not controlled under WHMIS (Canada).

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**DSCL (EEC)**

R21/22- Harmful in contact with skin and if swallowed.  
 R45- May cause cancer.  
 R62- Possible risk of impaired fertility.

S2- Keep out of the reach of children.  
 S36/37- Wear suitable protective clothing and gloves.  
 S46- If swallowed, seek medical advice immediately and show this container or label.  
 S53- Avoid exposure - obtain special instructions before use.

**HMIS (U.S.A.)**

Health Hazard	2
Fire Hazard	0
Reactivity	0
Personal Protection	h

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

Health  Flammability  
 Reactivity  
 Specific hazard

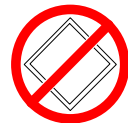
**WHMIS (Canada) (Pictograms)**



**DSCL (Europe) (Pictograms)**



**TDG (Canada) (Pictograms)**



**ADR (Europe) (Pictograms)**



**Protective Equipment**



Gloves.



Lab coat.



Vapor respirator. Be sure to use an approved/certified respirator or equivalent.



Splash goggles.

**Section 16. Other Information****MSDS Code** P3029**References** Not available.**Other Special Considerations** Not available.

Validated by Sonia Owen on 8/11/2006.

Verified by Sonia Owen.

Printed 9/13/2006.

CALL (310) 516-8000

**Notice to Reader**

*All chemicals may pose unknown hazards and should be used with caution. This Material Safety Data Sheet (MSDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this MSDS. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this MSDS is based on technical data judged to be reliable, Spectrum Quality Products, Inc. assumes no responsibility for the completeness or accuracy of the information contained herein.*