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### 15. REGULATORY INFORMATION

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The CAS numbers of all components of this solution are listed on the TSCA Inventory.

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### 16. OTHER INFORMATION

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#### NFPA Hazard Ratings:

Health: 1  
Flammability: 0  
Reactivity: 0  
Special Hazards: None known.

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The information contained herein is provided in good faith and is believed to be correct as of the date hereof. However, NCL of Wisconsin, Inc. makes no representation as to the comprehensiveness or accuracy of the information. It is expected that individuals receiving the information will exercise their independent judgement in determining its appropriateness for a particular purpose. Accordingly, NCL of Wisconsin, Inc. will not be responsible for damages of any kind resulting from the use of or reliance upon such information.

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END OF MATERIAL SAFETY DATA SHEET

### MATERIAL SAFETY DATA SHEET

NCL of Wisconsin, Inc.

P.O. Box 8

Biramwood, WI 54414

Emergency Telephone No: 800-424-9300 (Chemtrec)

PRODUCT NAME: FLUORIDE BUFFER (TISAB II)

NCL CATALOG NUMBER: F-29A

Date of this revision: 09/06/2007

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### 1. CHEMICAL PRODUCT IDENTIFICATION

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Trade name: TISAB II.

Chemical Formula: Not applicable.

Formula CAS No: Not applicable.

Molecular Weight: Not applicable.

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### 2. COMPOSITION

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Component	CAS#	Approx %
Water	7732-18-5	>96
Acetic Acid	64-19-7	<1
Sodium Chloride	7647-14-5	<1
trans-1,2-diaminocyclohexane-N,N',N'- tetraacetic acid monohydrate (CDTA)	13291-61-7	<1
Sodium Hydroxide (Product has a pH of 5.5)	1310-73-2	<1

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### 3. HAZARD IDENTIFICATION

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HARMFUL IF INHALED OR SWALLOWED.

Do not get in eyes, on skin or on clothing. Minimal contact, as with all chemicals, is a good policy to follow. Remove and wash contaminated clothing before re-use.

Routes of entry: Ingestion, inhalation, or skin contact.

Carcinogenicity: This material is not listed (IARC, NTP, OSHA) as a cancer causing agent.

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### 4. FIRST AID MEASURES

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Ingestion: If swallowed, DO NOT INDUCE VOMITING! Give large quantities of water or milk if available. Call a physician.

Inhalation: Remove to fresh air. Give artificial respiration if breathing has stopped.

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.

Skin: Immediately flush skin with plenty of water. Get medical attention if irritation develops.

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#### 5. FIRE FIGHTING MEASURES:

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Flash Point: Not determined.  
Flammable Limits (LEL): Not Determined.  
Flammable Limits (UEL): Not Determined.  
Fire: Wear self-contained breathing apparatus and protective clothing.  
Fire Extinguishing Media: Water spray, foam, dry chemical, or CO2.  
Explosion Hazards: Thermal decomposition produces toxic fumes. May react with metals to produce flammable hydrogen gas.

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#### 6. ACCIDENTAL RELEASE MEASURES

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Evacuate area of non-essential personnel. Eliminate ignition sources.  
Scoop up material and transfer to a plastic container and send to a RCRA-approved waste facility.  
Ensure compliance with Federal, State, and local regulations.

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#### 7. HANDLING AND STORAGE

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Keep in a tightly closed container, stored in a cool, dry, ventilated area. Avoid contact with eyes and skin.

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#### 8. EXPOSURE CONTROLS

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Airborne Exposure Limits: None established for product.  
For 100% Acetic acid (product contains <1%):  
    OSHA Permissible Exposure Limit (PEL): 10 ppm (TWA)  
    ACGIH Threshold Limit Value (TLV): 10 ppm (TWA); 15 ppm (STEL).  
For 100% Sodium Hydroxide (product contains <1%)  
    OSHA Permissible Exposure Limit (PEL): 2 mg/cu.m.  
    ACGIH Threshold Limit Value (TLV): 2 mg/cu.m.  
Ventilation System: Material should be handled or transferred in a fume hood or with equivalent ventilation.  
Personal Respirators (NIOSH Approved): If the TLV is exceeded a full face-piece chemical cartridge respirator may be worn, in general, up to the maximum use concentration specified by the respirator supplier, or up to 100 times the TLV, whichever is less. Alternatively, a supplied air full facepiece respirator or airlined hood may be worn.  
Skin Protection: Rubber or neoprene gloves and additional protection including impervious boots, apron, or coveralls, as needed in areas of unusual exposure to prevent skin contact.  
Eye Protection: Use chemical safety goggles and/or a full face shield where splashing is possible. Contact lenses should not be worn when working with this material.  
Maintain eye-wash fountain and quick-drench facilities in work area.

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#### 9. PHYSICAL CHEMICAL PROPERTIES

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Appearance: Clear, colorless liquid.  
Odor: Vinegar odor.  
Solubility: Infinitely soluble in water.  
Boiling Point: Not Determined.  
Melting Point: Not Determined.  
Specific Gravity: 1.01  
Vapor Density (Air=1): Not Determined.  
Vapor Pressure (mm Hg): Not Determined.  
Evaporation Rate: Not Determined.  
pH: 5.5

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#### 10. STABILITY AND REACTIVITY

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Stability: Stable under ordinary conditions of use and storage. Containers may burst when heated. Heat and sunlight can contribute to instability.  
Hazardous Decomposition Products: When heated to decomposition, can emit toxic gases and carbon dioxide.  
Hazardous Polymerization: This substance does not polymerize.  
Incompatibilities: Oxidizers, chromic acid, sodium peroxide, nitric acid, strong alkali, heat, flame.

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#### 11. TOXICOLOGICAL INFORMATION:

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No toxicity data for product.  
For 100% Acetic Acid (product contains <1%):  
    inh-mus LC50: 5620 ppm/1 H  
    orl-rbt LDLo: 1200 mg/kg.  
For 100% Sodium Hydroxide (product contains <1%):  
    orl-rbt LDLo: 500 mg/kg.  
    Mutagenic effects cited in RTECS.

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#### 12. ECOLOGICAL INFORMATION

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None found.

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#### 13. DISPOSAL CONSIDERATIONS

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EPA Waste Number: None for product.  
    For Acetic Acid: D002  
Neutralize to a pH of 6-9.  
Ensure compliance with Federal, State, and local regulations.

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#### 14. TRANSPORT INFORMATION

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DOT Shipping Name: Not Regulated.  
DOT Number: None.