

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.

9. PHYSICAL CHEMICAL PROPERTIES

Appearance: Clear, colorless liquid.

Odor: Vinegar odor.

Solubility: Infinitely soluble in water.

Boiling Point: Not Determined.

Melting Point: Not Determined.

Specific Gravity: 1.05

Vapor Density (Air=1): Not Determined.

Vapor Pressure (mm Hg): Not Determined.

Evaporation Rate: Not Determined.

pH: 5.5

10. STABILITY AND REACTIVITY

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.

11. TOXICOLOGICAL INFORMATION:

No toxicity data for product.

For 100% Acetic Acid (product contains 6%):

inh-mus LC50: 5620 ppm/1 H

orl-rbt LDLo: 1200 mg/kg.

For 100% Sodium Hydroxide (product contains 4%):

orl-rbt LDLo: 500 mg/kg.

Mutagenic effects cited in RTECS.

12. ECOLOGICAL INFORMATION

None found.

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

NCL CATALOG NUMBER: F-29

Date of this revision: 09/06/2007

1. CHEMICAL PRODUCT IDENTIFICATION

Trade name: TISAB III.

Chemical Formula: Not applicable.

Formula CAS No: Not applicable.

Molecular Weight: Not applicable.

2. COMPOSITION

Component	CAS#	Approx %
Water	7732-18-5	>81
Acetic Acid	64-19-7	6
Sodium Chloride	7647-14-5	6
trans-1,2-diaminocyclohexane-N,N',N'- tetraacetic acid monohydrate (CDTA)	13291-61-7	2
Sodium Hydroxide (Product has a pH of 5.5)	1310-73-2	4

3. HAZARD IDENTIFICATION

May cause burns.

May cause damage to respiratory system.

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.

tor or airlined hood may be worn.

4. FIRST AID MEASURES

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.

5. FIRE FIGHTING MEASURES:

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.

6. ACCIDENTAL RELEASE MEASURES

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.

7. HANDLING AND STORAGE

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

8. EXPOSURE CONTROLS

Airborne Exposure Limits: None established for product.

For 100% Acetic acid (product contains 6%):

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 4%)

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 respira-