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HI 7023
TISAB II Solution

Safety Data Sheet

According to Regulation (EC) No. 1907/2006

Revision Date: 2008-12-01
Reason for Revision: REACH Compliance and General Update

SECTION 1: IDENTIFICATION OF THE PRODUCT AND COMPANY

Product Name: HI 7023 TISAB II Solution
Application: Fluoride Buffer Solution

Additional Product Codes: HI 7023/1L
HI 7023L

Company Information (USA):
Hanna Instruments, Inc.
584 Park East Dr, Woonsocket, Rhode Island, USA 02895

Technical Service Contact Information:
1-800-426-6287 (8:30AM - 5:00PM ET)
+1-401-766-4260 (8:30AM - 5:00PM ET)

USA Emergency Contact Information: 1-800-424-9300 (Chemtrec 24Hr. Emergency)

International Emergency Contact Information: +1-703-527-3887 (Chemtrec 24Hr. Emergency)

E-mail Address: tech@hannainst.com

SECTION 2: HAZARD IDENTIFICATION

Flammable. Causes burns.

SECTION 3: COMPOSITION AND COMPONENT INFORMATION

Component:	Sodium Hydroxide	Acetic Acid
EC-No.:	215-185-5	200-580-7
CAS-No.:	1310-73-2	64-19-7
Hazard:	C	C
Phrases:	R: 35	R: 10-35
Content:	> 2% - < 5%	> 1% - < 10%

SECTION 4: FIRST AID MEASURES

After Inhalation: Remove to fresh air. Summon doctor.

After Skin Contact: Wash effected area with plenty of water. Immediately remove contaminated clothing.

After Eye Contact: Rinse out immediately with plenty of water and seek medical advice.

After Swallowing: Drink plenty of water (if necessary several liters), avoid vomiting (risk of perforation!). Immediately seek medical advice. Do not attempt to neutralize.

General Information: Remove contaminated, soaked clothing immediately and dispose of safely.

SECTION 5: FIRE-FIGHTING MEASURES

Suitable Extinguishing Media:

Water spray, Carbon Dioxide, Dry Chemical Powder, Appropriate Foam.

Special Risks:

Non-combustible. Ambient fire may liberate hazardous vapors. The following may develop in event of fire: Acetic Acid Vapours

Special Protective Equipment:

Do not stay in dangerous zone without suitable chemical protection clothing and self-contained breathing apparatus.

Additional Information:

Contain escaping vapors with water.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions:

Do not inhale vapors. Avoid substance contact. Ensure supply of fresh air in enclosed rooms.

Environmental Precautions:

Do not discharge into the drains/surface waters/groundwater.

Additional Notes:

Take up with liquid-absorbent material. Clean up affected area and dispose according to local regulation. Render harmless: neutralize with diluted sulfuric acid.

SECTION 7: HANDLING AND STORAGE

Handling:

Accessible only for authorized persons.

Storage:

Tightly closed. Store at room temperature (+15 to +25 °C recommended).

SECTION 8: EXPOSURE CONTROL/PERSONAL PROTECTION

Ingredients:

USA - OSHA
Name: Sodium Hydroxide
Type: PEL
Value: 2 mg/m³

Engineering:

Safety shower and eye wash.

Personal Protective Equipment:

Protective clothing should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled. The resistance of the protective clothing to chemicals should be ascertained with the respective supplier. As appropriate to quantity handled.

Respiratory Protection:	***Protective Gloves:***	***Eye Protection:***
Required when vapors/aerosols are generated. Work under hood.	Rubber or plastic	Goggles or face mask

Industrial Hygiene:

Change contaminated clothing. Wash hands after working with substance.

SECTION 9: PHYSICAL/CHEMICAL PROPERTIES

Appearance:	Colorless liquid	***Odor:***	Slightly pungent.	***Density at 20° C:***	1.09 g/cm³
Melting Point:	ND	***Boiling Point:***	ND	***Solubility:***	Soluble
pH at 20° C:	5.4-5.5	***Explosion Limit:***	NA	***Flash Point:***	NA
Thermal Decomp.:	NA				

SECTION 10: STABILITY AND REACTIVITY

Conditions to be Avoided:

Strong Heating

Hazardous Polymerization:

Will not occur.

Further Information:

Not available

Hazardous Decomposition Products:

In the event of fire: See section 5.

Substances to be Avoided:

Ammonium compounds (could be formed: ammonia); acids, metals, light metals

SECTION 11: TOXICOLOGICAL INFORMATION

Quantitative data on the toxicity of this product is not available.

APPLICABLE TO PARTIAL COMPONENT:
The following applies to Sodium hydroxide – as the pure substance
Acute toxicity
Quantitative data on the toxicity of this product are not available.
Specific symptoms in animal studies:
Eye irritation test (rabbit): burns.
Skin irritation test (rabbit): burns.
Subacute to chronic toxicity
Mutagenicity (mammal cell test): micronucleus negative.
Bacterial mutagenicity: Escherichia coli: negative.
Bacterial mutagenicity: Ames test: negative.
No teratogenic effect in animal experiments.

APPLICABLE TO PARTIAL COMPONENT:
The following applies to Acetic acid – as the pure substance
Acute toxicity
LC50 (inhalation, rat): 11.4 mg/L /4 h.
LD50 (dermal, rabbit): 1060 mg/kg.
LD50 (oral, rat): 3310 mg/kg.
Specific symptoms in animal studies:
Eye irritation test (rabbit): burns.
Skin irritation test (rabbit): burns.
Subacute to chronic toxicity
Bacterial mutagenicity: Salmonella typhimurium: negative.
No teratogenic effect in animal experiments.
Further toxicological information
Strongly corrosive substance.

In Case of Inhalation:	Mucosal irritations, coughing, dyspnoea.
In Case of Skin Contact:	Burns, necrosis.
In Case of Eye Contact:	Burns, necrosis. Risk of blindness!
In Case of Ingestion:	Burns of mouth, mucous membrane, esophagus. Risk of perforation in the esophagus and stomach.
Further Data:	Further hazardous properties cannot be excluded. The product should be handled with the usual care when dealing with chemicals. Property of this product must be anticipated on the basis from the components of the preparation:

SECTION 12: ECOLOGICAL INFORMATION

Quantitative data on the ecotoxicity of this product is not available.

APPLICABLE TO PARTIAL COMPONENT:
The following applies to Sodium hydroxide – as the pure substance
Biologic degradation:
Methods for the determination of biodegradability are not applicable to inorganic substances.
Behavior in environmental compartments:
Concentration in organisms is not to be expected.
Ecotoxic effects:
Biological effects:
Harmful effect on aquatic organisms. Toxic effect on fish and plankton. Harmful effect due to pH shift. Forms corrosive mixtures with water even if diluted. Does not cause biological oxygen deficit.
Neutralization possible in waste water treatment plants.
Fish toxicity:
Onchorhynchus mykiss LC50 : 45.4 mg/L /96 h (in hard water).
L.macrochirus LC50 : 99 mg/L /48h.
Daphnia toxicity:
Daphnia magna EC50 : 76 mg/L /24 h.

APPLICABLE TO PARTIAL COMPONENT:
The following applies to Acetic acid – as the pure substance
Biologic degradation:
Biodegradation: 99 % /30 d (closed bottle test).
Readily biodegradable.
Behavior in environmental compartments:
Distribution: log p(o/w): -0.17 (experimental).
No bioaccumulation is to be expected (log P(o/w <1).
Passage from aqueous solution into the atmosphere is not to be expected.
Ecotoxic effects:
Biological effects:
Harmful effect on aquatic organisms. Harmful effect due to pH shift. Caustic even in diluted form.
Fish toxicity: L.macrochirus LC50: 75 mg/L /96 h. P.promelas LC50: 88 mg/L /96 h.
Daphnia toxicity: Daphnia magna EC50: 47 mg/L /24 h.
Bacterial toxicity: Photobacterium phosphoreum EC50: 11 mg/L /15 min microtox test.
Maximum permissible toxic concentration:
Algeal toxicity: Sc.quadricauda IC5: 4000 mg/L /16 h.
Bacterial toxicity: Ps.putida EC5: 2850 mg/L /16 h neutral.
Protozoa: E.sulcatum EC5: 78 mg/L /72 h neutral.

Further Data: DO NOT ALLOW TO ENTER WATERS, WASTE WATERS, OR SOIL!

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal: Chemical residues are generally classified as special waste and thus covered by local regulations. Contact local authorities or disposal companies for advice. Handle contaminated packaging in the same way as the substance itself.

SECTION 14: TRANSPORTATION INFORMATION

Land:

ADR/RID: 8 PGII
UN-N: 1760
Name: CORROSIVE LIQUID, n.o.s.
(sodium hydroxide/acetic acid solution)

Sea:

IMDG: 8/UN 1760/PGII
Name: CORROSIVE LIQUID, n.o.s.
(sodium hydroxide/acetic acid solution)

Air:

ICAO/IATA: 8/UN 1760/PGII
Name: CORROSIVE LIQUID, n.o.s.
(sodium hydroxide/acetic acid solution)

Transport data applies to the COMPLETE KIT!

SECTION 15: REGULATORY INFORMATION

Labeling according to EC Directives:

Symbol: C: Corrosive

R-phrases: 10-34: Flammable. Causes burns.

S-phrases: 26-37/39-45: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable gloves and eye/face protection. In case of accident or if you feel unwell, seek medical advice immediately (show label where possible).

Contains: Sodium Hydroxide

SECTION 16: OTHER INFORMATION

Text of R-phrases under Section 3

10: Flammable.
35: Causes severe burns

Revision Information

Revision Date:	2008-12-01
Supersedes edition of:	2008-01-17
Reason for revision:	REACH Compliance and General Update

Legend

NA: Not Applicable
ND: Not Determined

THE INFORMATION CONTAINED HEREIN IS BASED ON THE PRESENT STATE OF OUR KNOWLEDGE. IT CHARACTERIZES THE PRODUCT WITH REGARD TO THE APPROPRIATE SAFETY PRECAUTIONS. IT DOES NOT REPRESENT A GUARANTEE OF THE PROPERTIES OF THE PRODUCT.