



Safety Data Sheet

Issue Date: 06-06-2014

Revision Date: NEW

Version 2

1: IDENTIFICATION

Product Identifier:

Product Name: Ty-Ion B14A

Other Means of Identification:

Part Number: 7519-05

Recommended Use of the Chemical and Restrictions on Use:

Aqueous closed system treatment

Details of the Author of the Safety Data Sheet:

Supplier Address: NU-CALGON WHOLESALER, INC.
2008 Altom Court
St. Louis, MO 63146-4151

Emergency Telephone Number:

Company Phone Number: (314) 469-7000
(800) 554-5499

**Emergency Telephone:
Number (24hr):** CHEMTREC 800-424-9300

2: HAZARDS IDENTIFICATION

Hazard Classification: Acute toxicity (oral, inhalation), category 3
Acute toxicity (dermal), category 4
Reproductive toxicity, category 2
Serious eye damage, category 1

Signal Word: Danger

Hazard Statements: H301: Toxic if swallowed.
H312: Harmful in contact with skin.
H315: Causes skin irritation.
H318: Causes serious eye damage.
H331: Toxic if inhaled.
H335: May cause respiratory irritation.
H361: Suspected of damaging fertility in the unborn child.

Pictograms of Related Hazards:**Precautionary Statements:**

P202 - Do not handle until all safety precautions have been read and understood.

P261 - Avoid breathing dust/fume/gas/mist/vapors/spray.

P270 - Do not eat, drink or smoke when using this product.

P280 - Wear protective gloves/protective clothing/eye protection/face protection.

P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

P331: Do NOT induce vomiting

P304+340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

P311: Call a POISON CENTER or doctor/physician

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing.

P310 - Immediately call a POISON CENTER or doctor/physician.

P303 +P361+ P353: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

P310: Immediately call a POISON CENTER or doctor/physician.

Description of Other Hazards: None

3: COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS #	Weight %
Sodium nitrite	7632-00-0	10-30
Sodium hydroxide	1310-73-2	1-10
1-Propanol, 2-amino-2-methyl-	124-68-5	1-10
Sodium metaborate	7775-19-1	1-10
Sodium carbonate	497-19-8	1-10
Diethylaminoethanol	100-37-8	<2
Sodium tolytriazole	64665-57-2	<2

4: FIRST-AID MEASURES

Eye Contact: Immediately flush eyes with plenty of water for at least 15 minutes, lifting upper and lower eyelids to ensure complete rinsing. Remove contact lenses, if present, after 5 minutes of flushing, and then continue flushing. Get medical attention immediately.

Skin Contact: Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention immediately. Wash clothing and thoroughly clean shoes before reuse.

Inhalation: If inhaled, remove victim to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion: If swallowed, do NOT induce vomiting. If victim is conscious and alert, rinse out mouth with water and give large quantities of water to drink. Get medical attention immediately. Never give anything by mouth to an unconscious person.

5: FIRE-FIGHTING MEASURES

Suitable Extinguishing Media: Use extinguishing media appropriate for the surrounding fire.

Unsuitable Extinguishing Media: Not available

Protective Equipment and Precautions for Firefighters: Firefighters should wear full protective clothing including a self-contained breathing apparatus.

Specific Hazards Arising from this Chemical: Contact with some metals can generate flammable hydrogen gas. If evaporated to dryness, residue can stimulate or accelerate combustion of organic or other combustible materials. Toxic gases may be emitted under fire conditions.

Hazardous Decomposition Products: Thermal decomposition or combustion may produce oxides of nitrogen, oxides of sodium, oxides of carbon, oxides of sulfur, and oxides of potassium, as well as ammonia.

6: ACCIDENTAL RELEASE MEASURES

Personal Precautions: Use personal protective equipment recommended in Section 8 (Exposure Controls/Personal Protection). Ventilate the spill area. Keep unnecessary and unprotected people away from the spill site. Stop or reduce any leaks if is safe to do so. Keep combustibles (wood, paper, oil, etc.) away from spilled material. Notify appropriate government, occupational health and safety, and environmental authorities.

Methods for Clean-up:

Small spills: Soak up spill with an inert, non-combustible, absorbent material (e.g. vermiculite, sand, or earth). Place residues in a suitable, covered, properly labeled container. Wash the affected area.

Large spills: Contain liquid using an inert, non-combustible, absorbent material (e.g. vermiculite, sand, or earth), by digging trenches, or by diking. Reclaim into recovery or salvage drums or tank truck for proper disposal. Contact an approved waste hauler for disposal of contaminated recovered material.

Disposal: Dispose of material in compliance with federal, state, and local regulations.

Environmental Precautions: Prevent entry into lakes, ponds, streams, waterways, or public water supplies.

7: HANDLING AND STORAGE

Advice on Safe Handling:

Avoid contact with skin, eyes, and clothing.

Avoid breathing vapors or mist.

Use with adequate ventilation.

Wash thoroughly after handling.

Do not take internally.

Keep containers closed when not in use.

Ensure that containers are properly labeled.

Containers of this material may be hazardous when empty since they retain product residues (vapors, liquid).

Observe all warnings and precautions listed for this product.

Prevent contact with clothing and other combustible materials.

Have emergency equipment (for fires, spills, leaks, etc.) readily available.

Storage Conditions:

Store in a cool, dry, well-ventilated area away from incompatible materials.

Protect against the physical damage of containers.

Do not store near combustible materials.

8: EXPOSURE CONTROL / PERSONAL PROTECTION

Chemical Name	NIOSH	OSHA PEL	ACGIH TLV
Sodium nitrite	None established	None established	None established
Sodium hydroxide	None established	TWA: 2 mg/m ³	Ceiling: 2 mg/m ³
1-Propanol, 2-amino-2-methyl-	None established	None established	None established
Sodium metaborate	None established	None established	TWA: 2 mg/m ³ STEL: 6 mg/m ³
Sodium carbonate	None established	None established	None established
Diethylaminoethanol	None established	TWA: 10 ppm, 50 mg/m ³	TWA: 2 ppm, 9.6 mg/m ³
Sodium tolyltriazole	None established	None established	None established

Eye/Face Protection: Chemical splash goggles and face shield.

Skin and Body Protection: Chemical resistant gloves and impervious protective clothing, including boots, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Respiratory Protection: If airborne concentrations exceed published exposure limits, use a NIOSH approved respirator in accordance with OSHA respiratory protection requirements (29 CFR 1910.134).



Engineering Controls: Use local and/or general exhaust ventilation to maintain airborne concentrations below irritating levels or airborne exposure limits, whichever is lower. Local exhaust is generally preferred because it can control the emission of the contaminant at its source, thus preventing dispersion of it into the general work area. Please refer to the ACGIH document, "Industrial Ventilation, A Manual of Recommended Practices, the most recent edition", for details.

General hygiene considerations: Use good industrial hygiene practices in handling this material. When using, do not eat or drink. Wash hands before breaks and immediately after handling the product. An eye wash station and safety shower should be accessible in the immediate area of use. Protective equipment should be cleaned thoroughly after each use.

9: PHYSICAL AND CHEMICAL PROPERTIES

pH: 12.0-14.0

Specific Gravity: 1.235-1.315 g/mL

Flash Point: Not available

Solubility In Water: Not available

Boiling Point: Not available

Freezing Point: Not available

Vapor Pressure: Not available

Vapor Density: Not available

Appearance and Odor: Clear, brown liquid with mild amine odor

10: STABILITY AND REACTIVITY

Chemical Stability: Stable

Hazardous Polymerization: Will not occur.

Conditions to Avoid: Incompatibles. Reacts violently with acids.

Incompatibilities: Acids. Oxidizing agents. Ammonium salts. Amines. Cyanides. Reducing agents.

Hazardous Decomposition Products: Thermal decomposition or combustion may produce oxides of nitrogen, oxides of sodium, oxides of carbon, oxides of sulfur, and oxides of potassium, as well as ammonia.

11: TOXICOLOGICAL INFORMATION

Likely Routes Of Exposure: Eye contact, skin contact, ingestion, and inhalation of product vapors or mists

Acute Toxicity:

Test Material	Oral LD50 (rat)	Dermal LD50 (rabbit)	Inhalation LC50 (rat)
Sodium nitrite	180 mg/Kg	None available	5.5 mg/m ³ -4H
Sodium hydroxide	140-340 mg/Kg	1,350 mg/Kg	Not available
1-Propanol, 2-amino-2-methyl-	2,900 mg/Kg	>2,000 mg/Kg	Not available
Sodium carbonate	4,090 mg/Kg	None available	2,300 mg/m ³ -2H
Sodium tetraborate pentahydrate	3,305 mg/Kg	>2,000 mg/Kg	>2 mg/L
Diethylaminoethanol	1,300 mg/Kg	1,260 mg/Kg	4,500 mg/m ³ -4 H
Sodium tolyltriazole	735-930 mg/Kg (50% solution)	>2,000 mg/Kg	>1,700 mg/L (Tolyltriazole)

Acute Symptoms and Effects:

Eye: Contact causes severe eye irritation and possibly burns. Tearing, redness, pain, swelling, impaired vision, and/or tissue damage may occur. Greater exposures may result in permanent damage.

Skin: Contact with skin causes irritation. Soreness, redness, and burns may result. There may be a delay between the time of exposure and when the sense of irritation begins. Sodium nitrite can be absorbed through damaged skin in amounts that may produce systemic toxicity similar to that produced by ingestion, if the area of exposure and amount absorbed is large.

Ingestion: Ingestion of this product may cause irritation and burns of the mucous membranes of the mouth, throat, esophagus, and stomach. Abdominal pain, nausea, vomiting, and diarrhea may occur.

This product would be considered to be toxic by ingestion because as little as one gram of the product component, sodium nitrite, may be fatal to humans. Ingestion of sodium nitrite may cause nausea, vomiting, headaches, cyanosis (bluish skin resulting from the reduced oxygen-carrying capacity of the blood), weakness, shortness of breath, a marked fall in blood pressure, collapse, convulsion, coma, and possibly death. Nitrites have been shown to convert in the stomachs of lab animals to potentially carcinogenic nitrosamines. Swallowing a large amount of the product component, sodium tetraborate, can result in severe gastrointestinal irritation, kidney injury, and central nervous system depression.

Inhalation: Inhalation of product mist may cause respiratory tract irritation. Inhalation of large amounts of product may cause systemic effects, as nitrites are readily absorbed by lung tissue.

Chronic: No applicable information was found concerning any potential health effects resulting from subchronic or chronic exposure to the product. Information on the product components follows.

This product contains sodium nitrite. Repeated doses of nitrites cause a fall in blood pressure, rapid pulse, headache, and visual disturbances. Nitrites have been implicated in an increased incidence of cancer. They may react with organic amines in the body to form carcinogenic nitrosamines. Repeated or prolonged exposure to nitrites may cause methemoglobinemia (decreased oxygen-carrying capacity of the blood). Pregnant women should minimize exposure to nitrites since the developing fetus may be adversely affected by the nitrite-induced methemoglobinemia.

Development of a defatting dermatitis on prolonged contact with sodium hydroxide has been reported. Chronic inhalation of alkaline solutions may result in irritation of or damage to the tissues of the respiratory system, and an increased susceptibility to respiratory illness.

Chronic exposures to borates can produce eye irritation, coughing, and skin rash (the latter following ingestion).

Reproductive effects: Borates may cause adverse reproductive effects based on animal data.

Teratogenicity: Not established

Mutagenicity: Not established

Embryotoxicity: Not established

Sensitization to Product: Not established

Synergistic Products: Not established

Carcinogenicity: Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.

The toxicological properties of this material have not been fully investigated.

12: ECOLOGICAL INFORMATION

Ecotoxicity: Components of this product have been identified as having potential environmental concerns.

Ecotoxicity - Freshwater Algae - Acute Toxicity Data

1-Propanol, 2-amino-2-methyl-: 72 Hr EC50 *Desmodesmus subspicatus*: 520 mg/L

Diethylaminoethanol: 72 Hr EC50 *Desmodesmus subspicatus*: 30 mg/L

Sodium carbonate: 72 Hr 120 Hr EC50 *Nitzschia*: 242 mg/L

Ecotoxicity - Freshwater Fish - Acute Toxicity Data

1-Propanol, 2-amino-2-methyl-: 96 Hr LC50 *Lepomis macrochirus*: 190 mg/L [static]

Diethylaminoethanol: 96 Hr LC50 *Pimephales promelas*: 1660-1920 mg/L [flow-through]

96 Hr LC50 *Leuciscus idus*: 100-220 mg/L [static]

Sodium carbonate: 96 Hr LC50 *Lepomis macrochirus*: 300 mg/L [static]

96 Hr LC50 *Pimephales promelas*: 310-1220 mg/L [static]

Sodium hydroxide: 96 Hr LC50 *Oncorhynchus mykiss*: 45.4 mg/L [static]

Sodium nitrite: 96 Hr LC50 *Oncorhynchus mykiss*: 0.19 mg/L [flow-through] (juvenile)

96 Hr LC50 *Oncorhynchus mykiss*: 0.092-0.13 mg/L [flow-through]

96 Hr LC50 *Oncorhynchus mykiss*: 0.4-0.6 mg/L [semi-static]

96 Hr LC50 *Oncorhynchus mykiss*: 0.65-1 mg/L [static]

96 Hr LC50 *Pimephales promelas*: 2.3 mg/L [flow-through]

96 Hr LC50 *Pimephales promelas*: 20 mg/L [static]

Ecotoxicity - Water Flea - Acute Toxicity Data

1-Propanol, 2-amino-2-methyl-: 48 Hr EC50 *Daphnia magna*: 193 mg/L

Diethylaminoethanol: 48 Hr EC50 *Daphnia magna* Straus: 83.6 mg/L

Sodium carbonate: 48 Hr EC50 *Daphnia magna*: 265 mg/L

Persistence and Degradability:

No data available

Bioaccumulative Potential:

No data available

Mobility in Soil:

No data available

Other Adverse Effects:

No data available

13: DISPOSAL INFORMATION**Disposal:** Dispose of in accordance with local, state, and federal regulations.**14: TRANSPORT INFORMATION**

Please see current shipping paper for most up-to-date shipping information, including exemptions and special circumstances.

US Department of Transportation (DOT):

UN Number: UN 1760

Proper Shipping Name: Corrosive liquid, n.o.s.
(contains sodium hydroxide)

Primary Hazard Class/Division: 8

Packing Group: III

Label: Corrosive

**Canada (TDG):**

UN Number: UN 1760

Proper Shipping Name: Corrosive liquid, n.o.s.
(contains sodium hydroxide)

Primary Hazard Class/Division: 8

Packing Group: III

Label: Corrosive

**Additional information:**

Special provisions: 16

Packaging exceptions: <5L - Limited Quantity

International Maritime Dangerous Goods Code (IMDG):

UN Number: UN 1760
 Proper Shipping Name: Corrosive liquid, n.o.s.
 (contains sodium hydroxide)
 Primary Hazard Class/Division: 8
 Packing Group: III
 Label: Corrosive



15: REGULATORY INFORMATION

US Federal Regulations:

OSHA Hazard Communication Status: Hazardous

TSCA: The ingredients of this product are listed on the Toxic Substances Control Act (TSCA) Chemical Substances Inventory.

CERCLA: EPA Hazardous Substances (40 CFR 302):

<u>Chemical Name</u>	<u>CERCLA Reportable Quantity (RQ)</u>
Sodium nitrite	100 lb
Sodium hydroxide	1,000 lb
Product	435 lb

(Notify the EPA of spills exceeding this amount.)

SARA TITLE III (Sections 302, 311, 312, and 313):

Section 302 Extremely Hazardous Substances (40 CFR 355):

<u>Chemical Name</u>	<u>CAS#</u>	<u>RQ</u>	<u>TPQ</u>
None			

Section 311 and 312 Health and Physical Hazards:

<u>Immediate</u>	<u>Delayed</u>	<u>Fire</u>	<u>Pressure</u>	<u>Reactivity</u>
yes	yes	no	no	No

Section 313 Toxic Chemicals (40 CFR 372):

<u>Chemical Name</u>	<u>CAS Number</u>	<u>Percent by Weight</u>
Sodium nitrite	7632-00-0	1-10

US State Regulations:

California Proposition 65: This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

International Inventories: No data

16: OTHER INFORMATION**Other Classifications:**

HMIS Ratings: Health = 3 Flammability = 0 Reactivity = 0

NFPA Ratings: Health = 3 Flammability = 0 Reactivity = 0

Hazard Rating Scale: 0=Minimal; 1=Slight; 2=Moderate; 3=Serious; 4=Severe

WHMIS (Canada):

Class D2A (very toxic): Materials Causing Other Toxic Effects



Class E: Corrosive Material



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