

# MATERIAL SAFETY DATA SHEET

## 1. Product and Company Identification

**Product Name** Ty-Ion B-14A (7519)  
**CAS #** Mixture  
**Product use** Dispersant  
**Manufacturer** Nu-Calgon  
 2008 Altom Court  
 St. Louis, MO 63146 US  
 Phone: 314-469-7000 / 800-554-5499  
 Emergency Phone: 1-800-424-9300 (CHEMTREC)

LEGEND HMIS/NFPA	
Severe	4
Serious	3
Moderate	2
Slight	1
Minimal	0

Health	* 3
Flammability	0
Physical Hazard	1
Personal Protection	X



## 2. Hazards Identification

### Emergency overview

**DANGER**  
 Oxidizing material.  
 May cause severe irritation or burns to the eyes, skin, gastrointestinal tract, and respiratory system.  
 Contains a potential reproductive toxin.

### Potential short term health effects

#### Routes of exposure

Eye, Skin contact, Skin absorption, Inhalation, Ingestion.

#### Eyes

May cause chemical burns. May cause blindness.

#### Skin

As per Policy Issue Sheet Number 60, strongly acidic or alkaline substances with a demonstrated pH of 2 or less or 11.5 or greater, need not be tested for primary dermal irritation, owing to their predictable corrosive properties.  
 In lieu of skin corrosivity test data on animals, this product is considered corrosive in Canada based on the pH of the product as a whole.  
 May cause severe irritation or chemical burns. May be absorbed through the skin.

#### ACGIH - Threshold Limit Values - Skin Notations

Diethylaminoethanol 100-37-8 Skin - potential significant contribution to overall exposure by the cutaneous route

#### NIOSH - Pocket Guide - Skin Notations

Diethylaminoethanol 100-37-8 Potential for dermal absorption

#### Inhalation

Excessive intentional inhalation may cause respiratory tract irritation and central nervous system effects (headache, dizziness).

#### Ingestion

Harmful if swallowed. May cause chemical burns to mouth, throat and stomach.

#### Target organs

Eyes. Respiratory system. Skin.

#### Chronic effects

Prolonged or repeated exposure to dilutions can cause drying, defatting and dermatitis.

#### Signs and symptoms

Symptoms may include redness, edema, drying, defatting and cracking of the skin.

### 3. Composition / Information on Ingredients

Ingredient(s)	CAS #	Percent
Sodium hydroxide	1310-73-2	3 - 7
Sodium nitrite	7632-00-0	15 - 40
1-Propanol, 2-amino-2-methyl-	124-68-5	1 - 5
Sodium carbonate	497-19-8	1 - 5
Sodium tetraborate pentahydrate	12179-04-3	1 - 5
Diethylaminoethanol	100-37-8	0.5 - 1.5
Sodium tolytriazole	64665-57-2	0.5 - 1.5

### 4. First Aid Measures

#### First aid procedures

<b>Eye contact</b>	Immediately flush with cool water. Remove contact lenses, if applicable, and continue flushing for 15 minutes. Obtain medical attention immediately.
<b>Skin contact</b>	Immediately flush with water. Wash with soap and water. Obtain medical attention if irritation persists.
<b>Inhalation</b>	If symptoms develop, move victim to fresh air. If symptoms persist, obtain medical attention. If breathing has stopped, trained personnel should administer CPR immediately.
<b>Ingestion</b>	Do not induce vomiting. Never give anything by mouth if victim is unconscious, or is convulsing. Obtain medical attention. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration.

#### Notes to physician

Symptoms may be delayed.

#### General advice

If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Avoid contact with eyes and skin. Keep out of reach of children.

### 5. Fire Fighting Measures

<b>Flammable properties</b>	Not flammable by WHMIS/OSHA criteria. Containers may explode when heated.
<b>Extinguishing media</b>	
<b>Suitable extinguishing media</b>	Flood fire area with water from a distance. Carbon dioxide.
<b>Unsuitable extinguishing media</b>	DO NOT use dry chemical fire extinguishing agents containing ammonium compounds (such as some A:B:C agents). An explosive compound can be formed.
<b>Protection of firefighters</b>	
<b>Specific hazards arising from the chemical</b>	Container may explode in heat of fire.
<b>Protective equipment for firefighters</b>	Firefighters should wear full protective clothing including self contained breathing apparatus.
<b>Hazardous combustion products</b>	May include and are not limited to: Oxides of carbon. Oxides of nitrogen.
<b>Explosion data</b>	
<b>Sensitivity to mechanical impact</b>	Not available
<b>Sensitivity to static discharge</b>	Not available

### 6. Accidental Release Measures

<b>Personal precautions</b>	Keep unnecessary personnel away. Do not touch or walk through spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep people away from and upwind of spill/leak.
<b>Methods for containment</b>	Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Stop leak if you can do so without risk. Prevent entry into waterways, sewers, basements or confined areas.
<b>Methods for cleaning up</b>	Before attempting clean up, refer to hazard data given above. Small spills may be absorbed with non-reactive absorbent and placed in suitable, covered, labelled containers. Prevent large spills from entering sewers or waterways. Contact emergency services and supplier for advice. Never return spills in original containers for re-use.

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## 7. Handling and Storage

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<b>Handling</b>	Use good industrial hygiene practices in handling this material. Do not get this material in your eyes, on your skin, or on your clothing.
<b>Storage</b>	Keep out of reach of children. Store in a closed container away from incompatible materials. Keep away from heat, open flames or other sources of ignition.

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## 8. Exposure Controls / Personal Protection

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### Exposure limits

<b>Ingredient(s)</b>	<b>Exposure Limits</b>
1-Propanol, 2-amino-2-methyl-	<b>ACGIH-TLV</b> Not established <b>OSHA-PEL</b> Not established
Diethylaminoethanol	<b>ACGIH-TLV</b> TWA: 2 ppm <b>OSHA-PEL</b> TWA: 10 ppm
Sodium carbonate	<b>ACGIH-TLV</b> Not established <b>OSHA-PEL</b> Not established
Sodium hydroxide	<b>ACGIH-TLV</b> Ceiling: 2 mg/m <sup>3</sup> <b>OSHA-PEL</b> TWA: 2 mg/m <sup>3</sup>
Sodium nitrite	<b>ACGIH-TLV</b> Not established <b>OSHA-PEL</b> Not established
Sodium tetraborate pentahydrate	<b>ACGIH-TLV</b> TWA: 2 mg/m <sup>3</sup> STEL: 6 mg/m <sup>3</sup> <b>OSHA-PEL</b> Not established
Sodium tolytriazole	<b>ACGIH-TLV</b> Not established <b>OSHA-PEL</b> Not established

### Engineering controls

General ventilation normally adequate.

### Personal protective equipment

#### Eye / face protection

Chemical splash goggles. Wear chemical goggles.

#### Hand protection

Rubber gloves. Confirm with a reputable supplier first.

#### Skin and body protection

As required by employer code.

#### Respiratory protection

Where exposure guideline levels may be exceeded, use an approved NIOSH respirator.

#### General hygiene considerations

Handle in accordance with good industrial hygiene and safety practice. When using do not eat or drink. Wash hands before breaks and immediately after handling the product.

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## 9. Physical and Chemical Properties

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### Appearance

Clear.

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<b>Color</b>	Amber Brown
<b>Form</b>	Fluid
<b>Odor</b>	Amine
<b>Odor threshold</b>	Not available
<b>Physical state</b>	Liquid
<b>pH</b>	12 - 14
<b>Melting point</b>	Not available
<b>Freezing point</b>	Not available
<b>Boiling point</b>	Not available
<b>Flash point</b>	Not available
<b>Pour point</b>	Not available
<b>Evaporation rate</b>	Not available
<b>Flammability limits in air, lower, % by volume</b>	Not available
<b>Flammability limits in air, upper, % by volume</b>	Not available
<b>Vapor pressure</b>	Not available
<b>Vapor density</b>	Not available
<b>Specific gravity</b>	1.24-1.30 g/mL
<b>Octanol/water coefficient</b>	Not available
<b>Solubility (H2O)</b>	Complete
<b>Auto-ignition temperature</b>	Not available
<b>VOC (Weight %)</b>	Not available
<b>Viscosity</b>	Not available
<b>Percent volatile</b>	Not available

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## 10. Stability and Reactivity

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<b>Chemical stability</b>	Stable under recommended storage conditions.
<b>Conditions to avoid</b>	Reacts violently with acids. This product may react with oxidizing agents. Do not mix with other chemicals.
<b>Incompatible materials</b>	Acids. Oxidizing agents. Ammonium salts. Amines. Cyanides. Reducing agents.
<b>Hazardous decomposition products</b>	May include and are not limited to: Oxides of carbon. Oxides of nitrogen.
<b>Possibility of hazardous reactions</b>	Hazardous polymerization does not occur.

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## 11. Toxicological Information

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### Component analysis - LC50

Ingredient(s)	LC50
1-Propanol, 2-amino-2-methyl-	Not available
Diethylaminoethanol	5000 mg/m3 mouse
Sodium carbonate	400 mg/m3 guinea pig
Sodium hydroxide	Not available
Sodium nitrite	175 mg/kg mouse; 5.5 mg/l/4h rat
Sodium tetraborate pentahydrate	Not available
Sodium tolytriazole	Not available

**Component analysis - Oral LD50**

Ingredient(s)	LD50
1-Propanol, 2-amino-2-methyl-	2150 mg/kg mouse; 2900 mg/kg rat
Diethylaminoethanol	1300 mg/kg rat
Sodium carbonate	4090 mg/kg rat
Sodium hydroxide	Not available
Sodium nitrite	88 mg/kg rat
Sodium tetraborate pentahydrate	3400 mg/kg rat
Sodium tolytriazole	720 mg/kg rat

**Effects of acute exposure**

<b>Eye</b>	May cause chemical burns. May cause blindness.
<b>Skin</b>	As per Policy Issue Sheet Number 60, strongly acidic or alkaline substances with a demonstrated pH of 2 or less or 11.5 or greater, need not be tested for primary dermal irritation, owing to their predictable corrosive properties. In lieu of skin corrosivity test data on animals, this product is considered corrosive in Canada based on the pH of the product as a whole. May cause severe irritation or chemical burns. May be absorbed through the skin.

**ACGIH - Threshold Limit Values - Skin Notations**

Diethylaminoethanol	100-37-8	Skin - potential significant contribution to overall exposure by the cutaneous route
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**NIOSH - Pocket Guide - Skin Notations**

Diethylaminoethanol	100-37-8	Potential for dermal absorption
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**Inhalation**

Excessive intentional inhalation may cause respiratory tract irritation and central nervous system effects (headache, dizziness).

**Ingestion**

Harmful if swallowed. May cause chemical burns to mouth, throat and stomach.

**Sensitization**

Non-hazardous by WHMIS/OSHA criteria.

**Chronic effects**

Non-hazardous by WHMIS/OSHA criteria.

**Carcinogenicity**

See below.

**ACGIH - Threshold Limit Values - Carcinogens**

Sodium tetraborate pentahydrate	12179-04-3	A4 - Not Classifiable as a Human Carcinogen (listed under Borate compounds, inorganic)
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**Mutagenicity**

Non-hazardous by WHMIS/OSHA criteria.

**Reproductive effects**

Contains a potential reproductive toxin. Borates may cause harmful reproductive effects based on animal data.

**Teratogenicity**

Non-hazardous by WHMIS/OSHA criteria.

**Synergistic Materials**

Not available

## 12. Ecological Information

**Ecotoxicity**

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

**Ecotoxicity - Freshwater Algae Data**

1-Propanol, 2-amino-2-methyl-	124-68-5	72 Hr EC50 Scenedesmus subspicatus: 520 mg/L
Diethylaminoethanol	100-37-8	72 Hr EC50 Scenedesmus subspicatus: 30 mg/L
Sodium carbonate	497-19-8	120 Hr EC50 Nitzschia: 242 mg/L

**Ecotoxicity - Freshwater Fish Species Data**

1-Propanol, 2-amino-2-methyl-	124-68-5	96 Hr LC50 Lepomis macrochirus: 190 mg/L [static]
Diethylaminoethanol	100-37-8	96 Hr LC50 Pimephales promelas: 1660-1920 mg/L [flow-through]; 96 Hr LC50 Leuciscus idus: 100-220 mg/L [static]
Sodium carbonate	497-19-8	96 Hr LC50 Lepomis macrochirus: 300 mg/L [static]; 96 Hr LC50 Pimephales promelas: <310-1220 mg/L [static]
Sodium hydroxide	1310-73-2	96 Hr LC50 Oncorhynchus mykiss: 45.4 mg/L [static]
Sodium nitrite	7632-00-0	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 Data**

1-Propanol, 2-amino-2-methyl-	124-68-5	48 Hr EC50 Daphnia magna: 193 mg/L
Diethylaminoethanol	100-37-8	48 Hr EC50 Daphnia magna Straus: 83.6 mg/L
Sodium carbonate	497-19-8	48 Hr EC50 Daphnia magna: 265 mg/L

**Environmental effects**

Not available

<b>Aquatic toxicity</b>	Not available
<b>Persistence / degradability</b>	Not available
<b>Bioaccumulation / accumulation</b>	Not available
<b>Partition coefficient</b>	Not available
<b>Mobility in environmental media</b>	Not available
<b>Chemical fate information</b>	Not available
<b>Other adverse effects</b>	Not available

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### 13. Disposal Considerations

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<b>Waste codes</b>	Not available
<b>Disposal instructions</b>	Dispose in accordance with all applicable regulations.
<b>Waste from residues / unused products</b>	Not available
<b>Contaminated packaging</b>	Not available

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### 14. Transport Information

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<b>U.S. Department of Transportation (DOT)</b>	Limited Quantity
<b>Transportation of Dangerous Goods (TDG - Canada)</b>	Limited Quantity

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### 15. Regulatory Information

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**Canadian federal regulations** This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

**Canada - WHMIS - Ingredient Disclosure List**

Diethylaminoethanol	100-37-8	1 %
Sodium carbonate	497-19-8	1 %
Sodium hydroxide	1310-73-2	1 %
Sodium nitrite	7632-00-0	1 %

**US Federal regulations** This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.  
All components are on the U.S. EPA TSCA Inventory List.

**U.S. - CERCLA/SARA - Hazardous Substances and their Reportable Quantities**

Sodium hydroxide	1310-73-2	1000 Lb final RQ; 454 kg final RQ
Sodium nitrite	7632-00-0	100 Lb final RQ; 45.4 kg final RQ

**U.S. - CERCLA/SARA - Section 313 - Emission Reporting**

Sodium nitrite	7632-00-0	1.0 % de minimis concentration
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**U.S. - CWA (Clean Water Act) - Hazardous Substances**

Sodium hydroxide	1310-73-2	Present
Sodium nitrite	7632-00-0	Present

**Occupational Safety and Health Administration (OSHA)**

**29 CFR 1910.1200 hazardous chemical** Yes

**CERCLA (Superfund) reportable quantity**

Sodium nitrite: 100.0000  
Sodium hydroxide: 1000.0000

**Superfund Amendments and Reauthorization Act of 1986 (SARA)**

**Hazard categories** Immediate Hazard - Yes  
Delayed Hazard - Yes  
Fire Hazard - No  
Pressure Hazard - No  
Reactivity Hazard - Yes

**Section 302 extremely hazardous substance** No

**Section 311 hazardous chemical** Yes

**Clean Air Act (CAA)** Not available

**Clean Water Act (CWA)** Not available

WHMIS status

Controlled

WHMIS classification

Class C - Oxidizing Material, Class D - Division 2A, Class E - Corrosive Material

WHMIS labeling



**State regulations**

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

**U.S. - California - 8 CCR Section 339 - Director's List of Hazardous Substances**

Diethylaminoethanol	100-37-8	Present
Sodium hydroxide	1310-73-2	Present
Sodium nitrite	7632-00-0	Present
Sodium tetraborate pentahydrate	12179-04-3	Present (exempt except when present as free crystal/powder, listed under Borates, tetra, sodium salts)

**U.S. - Louisiana - Reportable Quantity List for Pollutants**

Sodium hydroxide	1310-73-2	1000 Lb final RQ; 454 kg final RQ
Sodium nitrite	7632-00-0	100 Lb final RQ; 45.4 kg final RQ

**U.S. - Massachusetts - Right To Know List**

1-Propanol, 2-amino-2-methyl-	124-68-5	Present
Diethylaminoethanol	100-37-8	Present
Sodium hydroxide	1310-73-2	Present
Sodium nitrite	7632-00-0	Present
Sodium tetraborate pentahydrate	12179-04-3	Present

**U.S. - Minnesota - Hazardous Substance List**

Diethylaminoethanol	100-37-8	Skin
Sodium hydroxide	1310-73-2	Present

**U.S. - New Jersey - Right to Know Hazardous Substance List**

1-Propanol, 2-amino-2-methyl-	124-68-5	sn 4194
Diethylaminoethanol	100-37-8	sn 0691
Sodium hydroxide	1310-73-2	sn 1706
Sodium nitrite	7632-00-0	sn 2258

**U.S. - New York - Reporting of Releases Part 597 - List of Hazardous Substances**

Sodium hydroxide	1310-73-2	1000 Lb RQ (air); 100 lb RQ (land/water)
Sodium nitrite	7632-00-0	100 Lb RQ (air); 100 lb RQ (land/water)

**U.S. - Pennsylvania - RTK (Right to Know) List**

1-Propanol, 2-amino-2-methyl-	124-68-5	Present
Diethylaminoethanol	100-37-8	Present
Sodium hydroxide	1310-73-2	Environmental hazard
Sodium nitrite	7632-00-0	Environmental hazard

**U.S. - Rhode Island - Hazardous Substance List**

Diethylaminoethanol	100-37-8	Toxic (skin)
Sodium hydroxide	1310-73-2	Toxic; Flammable

**Inventory name**

Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

## 16. Other Information

**Disclaimer**

Information contained herein was obtained from sources considered technically accurate and reliable. While every effort has been made to ensure full disclosure of product hazards, in some cases data is not available and is so stated. Since conditions of actual product use are beyond control of the supplier, it is assumed that users of this material have been fully trained according to the requirements of all applicable legislation and regulatory instruments. No warranty, expressed or implied, is made and supplier will not be liable for any losses, injuries or consequential damages which may result from the use of or reliance on any information contained in this document.

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**Prepared by**

Nu-Calgon Technical Service (314) 469-7000

**Other information**

For an updated MSDS, please contact the supplier/manufacturer listed on the first page of the document.