

# MSDS

(Posted 6/21/2013)

The attached MSDS supersede all other MSDS. Please file accordingly.

VENDOR: **NU-CALGON, A389-92**

STOCK#      MFG# DESCRIPTION

B82-049      7357-05 TY-ION B20 5 GAL



# MATERIAL SAFETY DATA SHEET

## 1. Product and Company Identification

**Product Name** Ty-Ion B-20 (7537)  
**CAS #** Mixture  
**Product use** Dispersant and pH indicator  
**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)

## 2. Hazards Identification

**Emergency overview** DANGER  
May cause severe irritation or burns to the eyes, skin, gastrointestinal tract, and respiratory system.  
CONTAINS MATERIAL WHICH MAY CAUSE CANCER.  
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.

**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 can cause drying, defatting and dermatitis. 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. Symptoms can include irritation, redness, scratching of the cornea, and tearing.

**OSHA Regulatory Status** This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

**Potential environmental effects** See section 12.

## 3. Composition / Information on Ingredients

Ingredient(s)	CAS #	Percent
Sodium metasilicate pentahydrate	10213-79-3	7 - 13
Sodium tetraborate pentahydrate	12179-04-3	5 - 10
Sodium nitrite	7632-00-0	10 - 30
Phenolphthalein	77-09-8	0 - 0.1

## 4. First Aid Measures

**First aid procedures**

**Eye contact** Immediately flush with cool water. Remove contact lenses, if applicable, and continue flushing for 15 minutes. Obtain medical attention immediately.

**Skin contact** Immediately flush with water. Wash with soap and water. Obtain medical attention if irritation persists.

**Inhalation** If symptoms develop, move victim to fresh air. If symptoms persist, obtain medical attention. If breathing has stopped, trained personnel should administer CPR immediately.

**Ingestion**

Do not induce vomiting. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. Never give anything by mouth if victim is unconscious, or is convulsing. Obtain medical attention.

**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.

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## 5. Fire Fighting Measures

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**Flammable properties**

Not flammable by WHMIS/OSHA criteria. Containers may explode when heated.

**Extinguishing media****Suitable extinguishing media**

Treat for surrounding material.

**Unsuitable extinguishing media**

Not available

**Protection of firefighters****Specific hazards arising from the chemical**

Container may explode in heat of fire.

**Protective equipment for firefighters**

Firefighters should wear full protective clothing including self contained breathing apparatus.

**Hazardous combustion products**

May include and are not limited to: Oxides of carbon. Oxides of nitrogen.

**Explosion data****Sensitivity to mechanical impact**

Not available

**Sensitivity to static discharge**

Not available

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## 6. Accidental Release Measures

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**Personal precautions**

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.

**Environmental precautions**

Do not discharge into lakes, streams, ponds or public waters. Advise authorities if product has penetrated drains, sewers or water pipes.

**Methods for containment**

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.

**Methods for cleaning up**

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 to original containers for re-use.

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## 7. Handling and Storage

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**Handling**

Use good industrial hygiene practices in handling this material. Do not get this material in your eyes, on your skin, or on your clothing. Do not ingest. Protect from freezing.

**Storage**

Keep out of reach of children. Store in a closed container away from incompatible materials. Store containers upright and closed. Keep away from heat, open flames or other sources of ignition.

## 8. Exposure Controls / Personal Protection

Exposure limits Ingredient(s)	Exposure Limits
Phenolphthalein	<b>ACGIH-TLV</b> Not established <b>OSHA-PEL</b> Not established
Sodium metasilicate pentahydrate	<b>ACGIH-TLV</b> Not established <b>OSHA-PEL</b> Not established
Sodium nitrite	<b>ACGIH-TLV</b> Not established <b>OSHA-PEL</b> Not established
Sodium tetraborate pentahydrate	<b>ACGIH-TLV</b> TWA: 2 mg/m3 STEL: 6 mg/m3 <b>OSHA-PEL</b> Not established
<b>Engineering controls</b>	General ventilation normally adequate.
<b>Personal protective equipment</b>	
<b>Eye / face protection</b>	Chemical splash goggles. Wear chemical goggles.
<b>Hand protection</b>	Rubber gloves. Confirm with a reputable supplier first.
<b>Skin and body protection</b>	As required by employer code.
<b>Respiratory protection</b>	Where exposure guideline levels may be exceeded, use an approved NIOSH respirator.
<b>General hygiene considerations</b>	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.

## 9. Physical and Chemical Properties

<b>Appearance</b>	aqueous solution
<b>Color</b>	Clear Red
<b>Form</b>	Liquid
<b>Odor</b>	Odorless
<b>Odor threshold</b>	Not available
<b>Physical state</b>	Liquid
<b>pH</b>	11.8 - 12.4
<b>Melting point</b>	Not available
<b>Freezing point</b>	Not available
<b>Boiling point</b>	Not available
<b>Pour point</b>	Not available
<b>Evaporation rate</b>	Not available
<b>Flash point</b>	Not available
<b>Auto-ignition temperature</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

Specific gravity	1.20 - 1.26 g/mL
Octanol/water coefficient	Not available
Solubility (H2O)	Complete
VOC (Weight %)	Not available
Viscosity	Not available
Percent volatile	Not available

## 10. Stability and Reactivity

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

## 11. Toxicological Information

### Component analysis - LC50

Ingredient(s)	LC50
Phenolphthalein	Not available
Sodium metasilicate pentahydrate	Not available
Sodium nitrite	175 mg/kg mouse
Sodium tetraborate pentahydrate	2 mg/l/4h rat

### Component analysis - Oral LD50

Ingredient(s)	LD50
Phenolphthalein	1000 mg/kg rat
Sodium metasilicate pentahydrate	Not available
Sodium nitrite	88 mg/kg rat
Sodium tetraborate pentahydrate	3305 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.
<b>Inhalation</b>	Excessive intentional inhalation may cause respiratory tract irritation and central nervous system effects (headache, dizziness).
<b>Ingestion</b>	Harmful if swallowed. May cause chemical burns to mouth, throat and stomach.
<b>Sensitization</b>	Non-hazardous by WHMIS/OSHA criteria.
<b>Chronic effects</b>	Non-hazardous by WHMIS/OSHA criteria.
<b>Carcinogenicity</b>	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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#### IARC - Group 2B (Possibly Carcinogenic to Humans)

Phenolphthalein	77-09-8	Monograph 76 [2000]
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#### NTP (National Toxicology Program) - Report on Carcinogens - Reasonably Anticipated to be Human Carcinogens

Phenolphthalein	77-09-8	Reasonably Anticipated To Be A Human Carcinogen
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#### U.S. - California - Proposition 65 - Carcinogens List

Phenolphthalein	77-09-8	carcinogen, initial date 5/15/98
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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.  
 Name of Toxicologically Synergistic Products Not available

## 12. Ecological Information

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

**Ecotoxicity - Freshwater Fish - Acute Toxicity Data**

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

## 13. Disposal Considerations

<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

## 14. Transport Information

**U.S. Department of Transportation (DOT)**

**Basic shipping requirements:**

<b>Proper shipping name</b>	Corrosive liquid, basic, inorganic, n.o.s. (SODIUM METASILICATE PENTAHYDRATE)
<b>Hazard class</b>	8
<b>UN number</b>	UN3266
<b>Packing group</b>	III
<b>Additional information:</b>	
<b>Special provisions</b>	IB3, T7, TP1, TP28
<b>Packaging exceptions</b>	<1.3 Gallons - Limited Quantity



**Transportation of Dangerous Goods (TDG - Canada)**

**Basic shipping requirements:**

<b>Proper shipping name</b>	CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S. (SODIUM METASILICATE PENTAHYDRATE)
<b>Hazard class</b>	8
<b>UN number</b>	UN3266
<b>Packing group</b>	III
<b>Additional information:</b>	
<b>Special provisions</b>	16
<b>Packaging exceptions</b>	<5L - Limited Quantity



## 15. Regulatory Information

**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**

Sodium nitrite 7632-00-0 1 %

**WHMIS status** Controlled

**WHMIS classification** Class D - Division 2A, Class E - Corrosive Material

**WHMIS labeling**



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

**29 CFR 1910.1200 hazardous chemical** Yes

**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. - CAA (Clean Air Act) - HON Rule - SOCM Chemicals**

Phenolphthalein 77-09-8 Group III

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

Sodium nitrite 7632-00-0 100 Lb final RQ; 45.4 kg final RQ

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

Phenolphthalein 77-09-8 0.1 % de minimis concentration

Sodium nitrite 7632-00-0 1.0 % de minimis concentration

**U.S. - CWA (Clean Water Act) - Hazardous Substances**

Sodium nitrite 7632-00-0 Present

**CERCLA (Superfund) reportable quantity**

Sodium hydroxide: 1000.0000

Sodium nitrite: 100.0000

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

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

**Section 302 extremely hazardous substance** No

**Section 311 hazardous chemical** Yes

**Clean Water Act (CWA)** Hazardous substance

**State regulations**

WARNING: This product contains a chemical known to the State of California to cause cancer.

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

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. - California - Proposition 65 - Carcinogens List**

Phenolphthalein 77-09-8 carcinogen, initial date 5/15/98

**U.S. - Illinois - Toxic Air Contaminant Carcinogens**

Phenolphthalein 77-09-8 IARC 2B Carcinogen; NTP Anticipated Carcinogen

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

Sodium nitrite 7632-00-0 100 Lb final RQ; 45.4 kg final RQ

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

Sodium nitrite 7632-00-0 Present  
 Sodium tetraborate pentahydrate 12179-04-3 Present

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

Phenolphthalein 77-09-8 sn 4110  
 Sodium nitrite 7632-00-0 sn 2258

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

Sodium nitrite 7632-00-0 100 Lb RQ (air); 100 lb RQ (land/water)

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

Sodium nitrite 7632-00-0 Environmental hazard

**Inventory name**

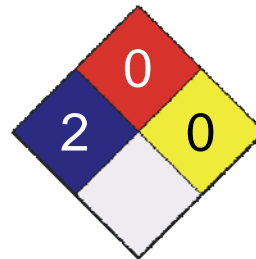
Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

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

**16. Other Information**

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

Health	* 2
Flammability	0
Physical Hazard	0
Personal Protection	X



**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.

This MSDS conforms to the ANSI Z400.1/Z129.1-2010 Standard.