



# Material Safety Data Sheet

|  |  |               |   |             |   |            |   |  |
|--|--|---------------|---|-------------|---|------------|---|--|
| <b>NFPA</b><br><br> | <b>HMIS</b><br><br><table border="1" style="margin: auto;"> <tr><td style="background-color: #00FFFF;">Health Hazard</td><td style="text-align: center;">3</td></tr> <tr><td style="background-color: #FFC0CB;">Fire Hazard</td><td style="text-align: center;">0</td></tr> <tr><td style="background-color: #FFFF00;">Reactivity</td><td style="text-align: center;">0</td></tr> </table> | Health Hazard | 3 | Fire Hazard | 0 | Reactivity | 0 | <b>Personal Protective Equipment</b><br><br><br><br>See Section 15. |
| Health Hazard  | 3  |               |   |             |   |            |   |  |
| Fire Hazard  | 0  |               |   |             |   |            |   |  |
| Reactivity   | 0  |               |   |             |   |            |   |  |

| Section 1. Chemical Product and Company Identification |   | Page Number: 1  |
|--|---|---|
| <b>Common Name/Trade Name</b>                          | <b>p-Nitroaniline TS</b>  | <b>Catalog Number(s).</b> N-148   |
|  |   | <b>CAS#</b> Mixture.  |
| <b>Manufacturer</b>                                    | SPECTRUM LABORATORY PRODUCTS INC.<br>14422 S. SAN PEDRO STREET<br>GARDENA, CA 90248 | <b>RTECS</b> Not applicable.  |
|  |   | <b>TSCA</b> TSCA 8(b) inventory: Water; Hydrochloric acid; Sodium nitrite; 4-Nitroaniline                             |
| <b>Commercial Name(s)</b>                              | Not available.  | <b>CI#</b> Not available.   |
| <b>Synonym</b>   | Not available.  | <b>IN CASE OF EMERGENCY</b><br><a href="tel:800-424-9300">CHEMTREC (24hr) 800-424-9300</a><br><br>CALL (310) 516-8000 |
| <b>Chemical Name</b>                                   | Not applicable.   |   |
| <b>Chemical Family</b>                                 | Not available.  |   |
| <b>Chemical Formula</b>                                | Not applicable.   |   |
| <b>Supplier</b>  | SPECTRUM LABORATORY PRODUCTS INC.<br>14422 S. SAN PEDRO STREET<br>GARDENA, CA 90248 |   |

| Section 2. Composition and Information on Ingredients |   |                          |                           |                           |             |
|---|---|--------------------------|---------------------------|---------------------------|-------------|
| Name  | CAS #   | Exposure Limits          |                           |                           | % by Weight |
|   |   | TWA (mg/m <sup>3</sup> ) | STEL (mg/m <sup>3</sup> ) | CEIL (mg/m <sup>3</sup> ) |             |
| 1) Water  | 7732-18-5   |                          |                           |                           | 96.7-97.2   |
| 2) Hydrogen chloride                                  | 7647-01-0   |                          | 5                         | 5                         | 0.5-0.95    |
| 3) Sodium nitrite                                     | 7632-00-0   |                          |                           |                           | 2           |
| 4) {4-}Nitroaniline                                   | 100-01-6  | 3                        |                           |                           | 0.35        |
| <b>Toxicological Data on Ingredients</b>              | <b>Sodium nitrite:</b><br>ORAL (LD50): Acute: 180 mg/kg [Rat]. 175 mg/kg [Mouse]. |                          |                           |                           |             |

| Section 3. Hazards Identification     |  |
|---------------------------------------|--|
| <b>Potential Acute Health Effects</b> | Very hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion. Hazardous in case of skin contact (corrosive), of eye contact (corrosive), inhalation. Liquid or spray mist may produce tissue damage particularly on mucous membranes of eyes, mouth and respiratory tract. Skin contact may produce burns. Inhalation of the spray mist may produce severe irritation of respiratory tract, characterized by coughing, choking, or shortness of breath. Severe over-exposure can result in death. Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering. |

**Potential Chronic Health Effects**

**CARCINOGENIC EFFECTS:** Classified 3 (Not classifiable for human.) by IARC [Hydrogen chloride]. Classified A4 (Not classifiable for human or animal.) by ACGIH [4-Nitroaniline].

**MUTAGENIC EFFECTS:** Mutagenic for mammalian somatic cells. [Sodium nitrite]. Mutagenic for bacteria and/or yeast. [Sodium nitrite]. Mutagenic for bacteria and/or yeast. [4-Nitroaniline].

**TERATOGENIC EFFECTS:** Not available.

**DEVELOPMENTAL TOXICITY:** Not available.

The substance may be toxic to blood, kidneys, liver, mucous membranes, cardiovascular system, upper respiratory tract, skin, eyes, , teeth.

Repeated or prolonged exposure to the substance can produce target organs damage. Repeated or prolonged contact with spray mist may produce chronic eye irritation and severe skin irritation. Repeated or prolonged exposure to spray mist may produce respiratory tract irritation leading to frequent attacks of bronchial infection. Repeated exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

**Section 4. First Aid Measures**

|                             |   |
|-----------------------------|---|
| <b>Eye Contact</b>          | Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention immediately.  |
| <b>Skin Contact</b>         | In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cover the irritated skin with an emollient. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately. |
| <b>Serious Skin Contact</b> | Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek immediate medical attention.   |
| <b>Inhalation</b>           | If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.  |
| <b>Serious Inhalation</b>   | Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek medical attention.   |
| <b>Ingestion</b>            | If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.   |
| <b>Serious Ingestion</b>    | Not available.  |

**Section 5. Fire and Explosion Data**

|  |  |
|--|--|
| <b>Flammability of the Product</b>                         | Non-flammable.   |
| <b>Auto-Ignition Temperature</b>                           | Not applicable.  |
| <b>Flash Points</b>  | Not applicable.  |
| <b>Flammable Limits</b>                                    | Not applicable.  |
| <b>Products of Combustion</b>                              | Not available.   |
| <b>Fire Hazards in Presence of Various Substances</b>      | Not applicable.  |
| <b>Explosion Hazards in Presence of Various Substances</b> | Risks of explosion of the product in presence of mechanical impact: Not available.<br>Non-explosive in presence of open flames and sparks. |
| <b>Fire Fighting Media and Instructions</b>                | Not applicable.  |
| <b>Special Remarks on Fire Hazards</b>                     | Not available.   |

|   |   |
|---|---|
| <b>Special Remarks on Explosion Hazards</b> | <p>Explodes when heated over 1000 F (538 C).<br/> Sodium Nitrite + thiocyanate explodes on heating.<br/> A mixture of sodium nitrite and various cyanides explodes on contact.<br/> Mixture of sodium nitrite and phthalic acid or anhydride explode violently on heating.<br/> Fusion of urea with sodium nitrite must be carried out exactly as described to avoid risk of explosion.<br/> Interaction of nitrites when heated with metal amidosulfates (sulfamates) may become explosively violent owing to liberation of nitrogen and steam mixed with ammonium sulfamate form.<br/> Violent explosion occurs if an ammonium salt is melted with nitrite salt.<br/> Shock may explode nitrites.<br/> (Sodium nitrite)</p> |
|---|---|

### Section 6. Accidental Release Measures

|                    |  |
|--------------------|--|
| <b>Small Spill</b> | Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container. If necessary: <b>Neutralize the residue with a dilute solution of acetic acid.</b>  |
| <b>Large Spill</b> | Corrosive liquid. Poisonous liquid.<br>Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. Do not get water inside container. Do not touch spilled material. Use water spray curtain to divert vapor drift. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal. <b>Neutralize the residue with a dilute solution of acetic acid.</b> Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities. |

### Section 7. Handling and Storage

|                    |   |
|--------------------|---|
| <b>Precautions</b> | Keep locked up.. Keep container dry. Do not ingest. Do not breathe gas/fumes/ vapor/spray. Never add water to this product. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. |
| <b>Storage</b>     | Keep container tightly closed. Keep container in a cool, well-ventilated area.  |

### Section 8. Exposure Controls/Personal Protection

|   |  |
|---|--|
| <b>Engineering Controls</b>                         | Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value.  |
| <b>Personal Protection</b>                          | Face shield. Full suit. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Gloves. Boots. Respiratory protection is not necessary for normal handling. Good room ventilation or use of local exhaust (fume hood) is sufficient. Use a vapor respirator under conditions where exposure to the substance is apparent (e.g. generation of high concentrations of mist or vapor, inadequate ventilation, development of respiratory tract irritation), and engineering controls are not feasible. Be sure to use an approved/certified respirator or equivalent.  |
| <b>Personal Protection in Case of a Large Spill</b> | Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.  |
| <b>Exposure Limits</b>                              | <p><b>Hydrogen chloride</b><br/> STEL: 7.5 (mg/m<sup>3</sup>) from ACGIH (TLV) [United States]<br/> STEL: 5 (ppm) from ACGIH (TLV) [United States]<br/> CEIL: 5 (ppm) from NIOSH<br/> CEIL: 7.5 (mg/m<sup>3</sup>) from NIOSH<br/> CEIL: 5 (ppm) from OSHA (PEL) [United States]<br/> CEIL: 7 (mg/m<sup>3</sup>) from OSHA (PEL) [United States]</p> <p><b>4-Nitroaniline</b><br/> TWA: 1 (ppm) from OSHA (PEL) [United States]<br/> TWA: 6 (mg/m<sup>3</sup>) from OSHA (PEL) [United States]<br/> TWA: 3 (mg/m<sup>3</sup>) from NIOSH [United States]<br/> TWA: 6 (mg/m<sup>3</sup>) [United Kingdom (UK)]<br/> TWA: 3 (mg/m<sup>3</sup>) [Canada]<br/> TWA: 3 (mg/m<sup>3</sup>) from ACGIH (TLV) [United States]</p> <p>Consult local authorities for acceptable exposure limits.</p> |

**Section 9. Physical and Chemical Properties**

|                                      |  |              |                        |
|--------------------------------------|--|--------------|------------------------|
| <b>Physical state and appearance</b> | Liquid.  | <b>Odor</b>  | Not available.         |
| <b>Molecular Weight</b>              | Not applicable.  | <b>Taste</b> | Not available.         |
| <b>pH (1% soln/water)</b>            | Basic.   | <b>Color</b> | Clear Yellow. (Light.) |
| <b>Boiling Point</b>                 | The lowest known value is 100°C (212°F) (Water).   |              |                        |
| <b>Melting Point</b>                 | Not available.   |              |                        |
| <b>Critical Temperature</b>          | Not available.   |              |                        |
| <b>Specific Gravity</b>              | Weighted average: 1.01 (Water = 1)   |              |                        |
| <b>Vapor Pressure</b>                | The highest known value is 2.3 kPa (@ 20°C) (Water).   |              |                        |
| <b>Vapor Density</b>                 | The highest known value is 0.62 (Air = 1) (Water).   |              |                        |
| <b>Volatility</b>                    | Not available.   |              |                        |
| <b>Odor Threshold</b>                | Not available.   |              |                        |
| <b>Water/Oil Dist. Coeff.</b>        | Not available.   |              |                        |
| <b>Ionicity (in Water)</b>           | Not available.   |              |                        |
| <b>Dispersion Properties</b>         | See solubility in water, methanol, diethyl ether, acetone.   |              |                        |
| <b>Solubility</b>                    | Easily soluble in cold water, hot water.<br>Soluble in acetone.<br>Partially soluble in methanol, diethyl ether. |              |                        |

**Section 10. Stability and Reactivity Data**

|  |   |
|--|---|
| <b>Stability</b>                               | The product is stable.  |
| <b>Instability Temperature</b>                 | Not available.  |
| <b>Conditions of Instability</b>               | Incompatible materials  |
| <b>Incompatibility with various substances</b> | Slightly reactive to reactive with reducing agents, combustible materials, organic materials, metals, acids, alkalis.   |
| <b>Corrosivity</b>                             | Non-corrosive in presence of glass.   |
| <b>Special Remarks on Reactivity</b>           | Hygroscopic.<br>Strong oxidizer.<br>Slowly oxidizes to nitrate in air.<br>Reacts vigorously with reducing materials.<br>Sodium nitrite is a strong oxidizer and is incompatible with the following: acetanilide, metals as powders, ammonium salts, aminoguanidine salts, anitpyrine, Butadiene, chlorates, hypophosphites, activated carbon, iodides, mercury salts, permanganate, phthalic acid, phthalic anhydride, sodium amide, sodium disulphite, cyanides (e.g. potassium cyanide, sodium cyanide), sodium thiocyanate, lithium, sulfites, tannic acid, urea, wood, vegetable astringent decoctions, infusions, or tinctures. (Sodium nitrite) |
| <b>Special Remarks on Corrosivity</b>          | This compound is highly corrosive when in solution (especially to most metals except: gold, mercury, platinum, silver, and tantalum). The anhydrous gas is not corrosive .<br>(Hydrogen chloride)   |
| <b>Polymerization</b>                          | Will not occur.   |

**Section 11. Toxicological Information**

|   |  |
|---|--|
| <b>Routes of Entry</b>                                  | Absorbed through skin. Eye contact.  |
| <b>Toxicity to Animals</b>                              | Acute oral toxicity (LD50): 175 mg/kg [Mouse]. (Sodium nitrite).   |
| <b>Chronic Effects on Humans</b>                        | <b>CARCINOGENIC EFFECTS:</b> Classified 3 (Not classifiable for human.) by IARC [Hydrogen chloride]. Classified A4 (Not classifiable for human or animal.) by ACGIH [4-Nitroaniline].<br><b>MUTAGENIC EFFECTS:</b> Mutagenic for mammalian somatic cells. [Sodium nitrite]. Mutagenic for bacteria and/or yeast. [Sodium nitrite]. Mutagenic for bacteria and/or yeast. [4-Nitroaniline].<br>Contains material which may cause damage to the following organs: blood, kidneys, liver, mucous membranes, cardiovascular system, upper respiratory tract, skin, eyes, , teeth.   |
| <b>Other Toxic Effects on Humans</b>                    | Very hazardous in case of skin contact (irritant), of ingestion.<br>Hazardous in case of skin contact (corrosive), of eye contact (corrosive), of inhalation (lung corrosive).   |
| <b>Special Remarks on Toxicity to Animals</b>           | Not available.   |
| <b>Special Remarks on Chronic Effects on Humans</b>     | May affect genetic material (mutagenic).<br>May cause adverse reproductive effects and birth defects (teratogenic) based on animal test data.<br>May cause cancer based on animal test data.   |
| <b>Special Remarks on other Toxic Effects on Humans</b> | Acute Potential Health Effects:<br>Skin: Corrosive. Causes severe skin irritation and burns.<br>Eyes: Corrosive. Causes severe eye irritation and burns.<br>Inhalation: Inhalation of mist or vapor may cause severe and chemical burns to the respiratory tract.<br>Ingestion: Corrosive. Causes severe irritation and chemical burns to the digestive/gastrointestinal tract. Can cause nausea, vomiting, diarrhea, thirst, difficulty swallowing, salivation, chills, fever, uneasiness, shock, strictures and stenosis (esophageal, gastric, pyloric). May affect behavior (excitement), the cardiovascular system (weak rapid pulse, tachycardia), respiration (shallow respiration), and urinary system (kidneys- renal failure, nephritis). It may also cause erosion of tooth enamel.<br>This product contains p-Nitroaniline. Para-nitroaniline is a potent methemoglobin-inducing agent and given sufficiently high or prolonged exposures, hemolysis can occur. It can produce methemoglobinemia (the formation of methemoglobin in the blood which causes deficient oxygenation of the blood due to decreased available hemoglobin) resulting in cyanosis (a bluish discoloration of the skin and lips) and anoxia. It may also affect behavior/central nervous system (ataxia, somnolence, irritability, convulsions), cardiovascular system (tachycardia), respiration (respiratory arrest), spleen, urinary system.<br>Chronic Potential Health Effects:<br>Ingestion: Prolonged or repeated ingestion may cause weight loss, jaundice, liver damage, and methemoglobinemia, anemia. It may also cause bleeding of the gums, oral mucosal ulceration and affect the teeth (yellowing of teeth and erosion of tooth enamel), kidneys, and behavior/central nervous system (muscle contraction or spasticity, and other symptoms similar to acute ingestion).<br>Prolonged or repeated skin contact may cause dermatitis.<br>Prolonged or repeated eye contact with vapor/mist can cause conjunctivitis.<br>Inhalation: Prolonged or repeated inhalation of vapor or mist may cause nasal ulceration and bleeding and affect respiratory tract (changes in pulmonary function, chronic bronchitis, overt respiratory tract abnormalities), and yellow of teeth and erosion of tooth enamel. |

**Section 12. Ecological Information**

|  |   |
|--|---|
| <b>Ecotoxicity</b>                                       | Not available.  |
| <b>BOD5 and COD</b>                                      | Not available.  |
| <b>Products of Biodegradation</b>                        | Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise. |
| <b>Toxicity of the Products of Biodegradation</b>        | The products of degradation are less toxic than the product itself.   |
| <b>Special Remarks on the Products of Biodegradation</b> | Not available.  |

**Section 13. Disposal Considerations**

**Waste Disposal** Waste must be disposed of in accordance with federal, state and local environmental control regulations.

**Section 14. Transport Information**

**DOT Classification** Class 8: Corrosive material

**Identification** : Hydrochloric acid , solution UNNA: 1789 PG: II

**Special Provisions for Transport** Not available.

**DOT (Pictograms)**



**Section 15. Other Regulatory Information and Pictograms**

**Federal and State Regulations**

Connecticut hazardous material survey.: Hydrochloric acid; Sodium nitrite; 4-Nitroaniline  
 Illinois toxic substances disclosure to employee act: Hydrochloric acid; Sodium nitrite; 4-Nitroaniline  
 Illinois chemical safety act: Hydrochloric acid; Sodium nitrite; 4-Nitroaniline  
 New York release reporting list: Hydrochloric acid; Sodium nitrite; 4-Nitroaniline  
 Rhode Island RTK hazardous substances: Hydrochloric acid; 4-Nitroaniline  
 Pennsylvania RTK: Hydrochloric acid; Sodium nitrite; 4-Nitroaniline  
 Florida: 4-Nitroaniline  
 Minnesota: Hydrochloric acid; 4-Nitroaniline  
 Massachusetts RTK: Hydrochloric acid; Sodium nitrite; 4-Nitroaniline  
 Massachusetts spill list: Hydrochloric acid; Sodium nitrite; 4-Nitroaniline  
 New Jersey: Hydrochloric acid; Sodium nitrite; 4-Nitroaniline  
 New Jersey spill list: Hydrochloric acid; Sodium nitrite; 4-Nitroaniline  
 New Jersey toxic catastrophe prevention act: 4-Nitroaniline  
 Louisiana RTK reporting list: Hydrochloric acid  
 Louisiana spill reporting: Hydrochloric acid; Sodium nitrite; 4-Nitroaniline  
 California Director's List of Hazardous Substances: Hydrochloric acid; 4-Nitroaniline; Sodium nitrite  
 TSCA 8(b) inventory: Water; Hydrochloric acid; Sodium nitrite; 4-Nitroaniline  
 TSCA 4(a) proposed test rules: Hydrochloric acid  
 TSCA 8(a) PAIR: 4-Nitroaniline  
 TSCA 8(d) H and S data reporting: 4-Nitroaniline: Effective date: 3/11/94; Sunset date: 6/30/98  
 TSCA 12(b) one time export: Sodium nitrite  
 SARA 302/304/311/312 extremely hazardous substances: Hydrochloric acid  
 SARA 313 toxic chemical notification and release reporting: Hydrochloric acid 2.5%; Sodium nitrite 2%  
 CERCLA: Hazardous substances.: Hydrochloric acid: 5000 lbs. (2268 kg); Sodium nitrite: 100 lbs. (45.36 kg); 4-Nitroaniline: 5000 lbs. (2268 kg);

**California Proposition 65 Warnings**

California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer which would require a warning under the statute: No products were found.  
 California prop. 65: This product contains the following ingredients for which the State of California has found to cause birth defects which would require a warning under the statute: No products were found.

**Other Regulations**

OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).

**Other Classifications**

**WHMIS (Canada)** CLASS E: Corrosive liquid.

**DSCL (EEC)** R34- Causes burns. S45- In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

**HMIS (U.S.A.)**

|                     |   |
|---------------------|---|
| Health Hazard       | 3 |
| Fire Hazard         | 0 |
| Reactivity          | 0 |
| Personal Protection | 0 |

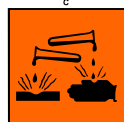
**National Fire Protection Association (U.S.A.)**

Health Flammability  
 Reactivity  
 Specific hazard

**WHMIS (Canada)  
(Pictograms)**



**DSCL (Europe)  
(Pictograms)**



**TDG (Canada)  
(Pictograms)**



**ADR (Europe)  
(Pictograms)**



**Protective Equipment**



Gloves.



Full suit.



Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.



Face shield.

**Section 16. Other Information**

**MSDS Code** N148S

**References** Not available.

**Other Special Considerations** Uses: Component in heat-transfer salts; in metal treatment and finishing operations; component of detinning solution and multipurpose greases; agent for recovery of tin from scrap; photobleach to eliminate solarization; preservative in fish, cured meats, meat products; pharmaceuticals; analytic reagent; dye manufacture (Sodium nitrite)

Validated by Sonia Owen on 8/7/2009.

Verified by Sonia Owen.  
Printed 8/7/2009.

CALL (310) 516-8000

[Notice to Reader](#)

*All chemicals may pose unknown hazards and should be used with caution. This Material Safety Data Sheet (MSDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this MSDS. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this MSDS is based on technical data judged to be reliable, Spectrum Quality Products, Inc. assumes no responsibility for the completeness or accuracy of the information contained herein.*