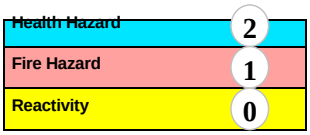
GARDENA, CA
NEW BRUNSWICK, NJ

Material Safety Data Sheet

NFPA	HMIS	Personal Protective Equipment
		 See Section 15.

Section 1. Chemical Product and Company Identification

Common Name/ Trade Name	**4-Nitroaniline**
Manufacturer	SPECTRUM LABORATORY PRODUCTS INC. 14422 S. SAN PEDRO STREET GARDENA, CA 90248
Commercial Name(s)	Not available.
Synonym	1-Amino-4-nitrobenzene; 4-Nitraniline; 4-Nitroaniline; 4-Nitrobenzenamine; Aniline, 4-nitro-; Azoamine Red ZH; Azoic Diazo Component 37; Benzenamine, 4-nitro- (9CI); C.I. 37035; C.I. Azoic Diazo Component 37; C.I. Developer 17; Developer P; Devol Red GG; Diazo Fast Red GG; Fast Red 2G Base; Fast Red Base 2J; Fast Red Base GG; Fast Red GG Base Fast Red MP Base; Fast Red P Base Naphtoelan Red GG Base; Nitrazol CF Extra; p-Aminonitrobenzene; p-Nitraniline; p-Nitroaniline; p-Nitrophenylamine; Red 2G Base; Shinnippon Fast Red GG Base
Chemical Name	Benzenamine, 4-nitro-
Chemical Family	Not available.
Chemical Formula	C6H6N2O2
Supplier	SPECTRUM LABORATORY PRODUCTS INC. 14422 S. SAN PEDRO STREET GARDENA, CA 90248

Catalog Number(s).	N2024
CAS#	100-01-6
RTECS	BY7000000
TSCA	TSCA 8(b) inventory: 4-Nitroaniline
CI#	Not available.

IN CASE OF EMERGENCY
CHEMTREC (24hr) 800-424-9300

CALL (310) 516-8000

Section 2.Composition and Information on Ingredients

		Exposure Limits			
Name	**CAS #**	**TWA (mg/m^3)**	**STEL (mg/m^3)**	**CEIL (mg/m^3)**	**% by Weight**
1) {4-}Nitroaniline	100-01-6	3			100

Toxicological Data on Ingredients

4-Nitroaniline:
ORAL (LD50): Acute: 450 mg/kg [Guinea pig]. 750 mg/kg [Rat]. 810 mg/kg [Mouse].

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Section 3. Hazards Identification

Potential Acute Health Effects	Slightly hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation.
Potential Chronic Health Effects	**CARCINOGENIC EFFECTS**: A4 (Not classifiable for human or animal.) by ACGIH. **MUTAGENIC EFFECTS**: Mutagenic for bacteria and/or yeast. **TERATOGENIC EFFECTS**: Not available. **DEVELOPMENTAL TOXICITY**: Not available. The substance may be toxic to blood, liver. Repeated or prolonged exposure to the substance can produce target organs damage.

Section 4. First Aid Measures

Eye Contact	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. WARM water MUST be used. Get medical attention if irritation occurs.
Skin Contact	Wash with soap and water. Cover the irritated skin with an emollient. Get medical attention if irritation develops.
Serious Skin Contact	Not available.
Inhalation	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
Serious Inhalation	Not available.
Ingestion	Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.
Serious Ingestion	Not available.

Section 5. Fire and Explosion Data

Flammability of the Product	May be combustible at high temperature.
Auto-Ignition Temperature	Not available.
Flash Points	CLOSED CUP: 198.9°C (390°F).
Flammable Limits	Not available.
Products of Combustion	These products are carbon oxides (CO, CO2), nitrogen oxides (NO, NO2...).
Fire Hazards in Presence of Various Substances	Slightly flammable to flammable in presence of organic materials.
Explosion Hazards in Presence of Various Substances	Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available. Slightly explosive in presence of heat.
Fire Fighting Media and Instructions	SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray, fog or foam. Do not use water jet.
Special Remarks on Fire Hazards	Not available.
Special Remarks on Explosion Hazards	Not available.

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Section 6. Accidental Release Measures

Small Spill	Use appropriate tools to put the spilled solid in a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.
Large Spill	Use a shovel to put the material into a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system. 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

Precautions	Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not ingest. Do not breathe dust. Wear suitable protective clothing. If ingested, seek medical advice immediately and show the container or the label.
Storage	Keep container tightly closed. Keep container in a cool, well-ventilated area.

Section 8. Exposure Controls/Personal Protection

Engineering Controls	Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.
Personal Protection	Safety glasses. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.
Personal Protection in Case of a Large Spill	Splash goggles. Full suit. Dust 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.
Exposure Limits	TWA: 1 (ppm) from OSHA (PEL) [United States] TWA: 6 (mg/m^3) from OSHA (PEL) [United States] TWA: 3 (mg/m^3) from NIOSH [United States] TWA: 6 (mg/m^3) [United Kingdom (UK)] TWA: 3 (mg/m^3) [Canada] TWA: 3 (mg/m^3) from ACGIH (TLV) [United States] Consult local authorities for acceptable exposure limits.

Section 9. Physical and Chemical Properties

Physical state and appearance	Solid.
Molecular Weight	138.12 g/mole
pH (1% soln/water)	Not available.

Odor	Ammoniacal. Pungent. Odorless. (Slight.)
Taste	Burning. Sweet.
Color	Yellow.

Boiling Point	332°C (629.6°F)
Melting Point	146°C (294.8°F)
Critical Temperature	Not available.
Specific Gravity	1.424 (Water = 1)
Vapor Pressure	Not applicable.
Vapor Density	4.77 (Air = 1)
Volatility	Not available.
Odor Threshold	Not available.
Water/Oil Dist. Coeff.	The product is more soluble in oil; log(oil/water) = 1.4
Ionicity (in Water)	Not available.
Dispersion Properties	See solubility in water, diethyl ether, acetone.

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Solubility	Soluble in acetone. Partially soluble in hot water, diethyl ether. Very slightly soluble in cold water. Very soluble in methanol; soluble in ethanol, ether, acetone, chloroform, toluene; slightly soluble in benzene, deuterated DMSO. 1 g/45 mL boiling water; 1 g/25 mL alcohol; 1 g/30 mL ether 0.08 g/100 g water at 18.5 deg C. In water, 390 ppm at 20 deg C In water, 724 mg/L at 25 deg C In water, 600 mg/L at 25 deg C In water, 728 mg/L at 30 deg C

Section 10. Stability and Reactivity Data

Stability	The product is stable.
Instability Temperature	Not available.
Conditions of Instability	Excess heat, incomaptible materials
Incompatibility with various substances	Not available.
Corrosivity	Non-corrosive in presence of glass.
Special Remarks on Reactivity	Forms water soluble salts with mineral acids
Special Remarks on Corrosivity	Not available.
Polymerization	Will not occur.

Section 11. Toxicological Information

Routes of Entry	Inhalation. Ingestion.
Toxicity to Animals	Acute oral toxicity (LD50): 450 mg/kg [Guinea pig].
Chronic Effects on Humans	**CARCINOGENIC EFFECTS**: A4 (Not classifiable for human or animal.) by ACGIH. **MUTAGENIC EFFECTS**: Mutagenic for bacteria and/or yeast. May cause damage to the following organs: blood, liver.
Other Toxic Effects on Humans	Slightly hazardous in case of skin contact (irritant), of ingestion, of inhalation.
Special Remarks on Toxicity to Animals	Not available.
Special Remarks on Chronic Effects on Humans	May affect genetic material (mutagenic). May cause adverse reproductive effects based on animal test data. May cause cancer based on animal test data.
Special Remarks on other Toxic Effects on Humans	Acute Potential Health Effects: Skin: May cause skin irritation. Eyes: May cause eye irritation. Inhalation: May cause respiratory tract irritation. Ingestion: May be harmful if swallowed. It can cause vomiting, diarrhea. 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. Chronic Potential Health Effects: Ingestion: Chronic exposure may cause weight loss, jaundice, liver damage, and methemoglobinemia, anemia.

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Section 12. Ecological Information

Ecotoxicity	Not available.
BOD5 and COD	Not available.
Products of Biodegradation	Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.
Toxicity of the Products of Biodegradation	The products of degradation are less toxic than the product itself.
Special Remarks on the Products of Biodegradation	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	Not a DOT controlled material (United States).
Identification	Not applicable.
Special Provisions for Transport	Not applicable.
DOT (Pictograms)	

Section 15. Other Regulatory Information and Pictograms

Federal and State Regulations	Connecticut hazardous material survey.: 4-Nitroaniline Illinois toxic substances disclosure to employee act: 4-Nitroaniline Illinois chemical safety act: 4-Nitroaniline New York release reporting list: 4-Nitroaniline Rhode Island RTK hazardous substances: 4-Nitroaniline Pennsylvania RTK: 4-Nitroaniline Florida: 4-Nitroaniline Minnesota: 4-Nitroaniline Massachusetts RTK: 4-Nitroaniline Massachusetts spill list: 4-Nitroaniline New Jersey: 4-Nitroaniline New Jersey spill list: 4-Nitroaniline New Jersey toxic catastrophe prevention act: 4-Nitroaniline Louisiana spill reporting: 4-Nitroaniline California Director's List of Hazardous Substances: 4-Nitroaniline TSCA 8(b) inventory: 4-Nitroaniline 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 SARA 313 toxic chemical notification and release reporting: 4-Nitroaniline CERCLA: Hazardous substances.: 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	

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OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).
EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances (EINECS No. 202-810-1).
Canada: Listed on Canadian Domestic Substance List (DSL).
China: Listed on National Inventory.
Japan: Listed on National Inventory (ENCS).
Korea: Listed on National Inventory (KECI).
Philippines: Listed on National Inventory (PICCS).
Australia: Listed on AICS.

Other Classifications

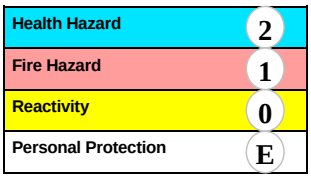
WHMIS (Canada) CLASS D-1B: Material causing immediate and serious toxic effects (TOXIC).

DSCL (EEC)

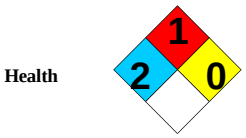
R23/24/25- Toxic by inhalation, in contact with skin and if swallowed.
R33- Danger of cumulative effects.
R52/53- Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S28- After contact with skin, wash immediately with plenty of water.
S36/37- Wear suitable protective clothing and gloves.
S45- In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
S61- Avoid release to the environment. Refer to special instructions/Safety data sheets.

HMIS (U.S.A.)



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



WHMIS (Canada) (Pictograms)

DSCL (Europe) (Pictograms)

TDG (Canada) (Pictograms)

ADR (Europe) (Pictograms)

Protective Equipment

Gloves.

Lab coat.

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

Safety glasses.

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Section 16. Other Information

MSDS Code	**3566N**
References	Not available.
Other Special Considerations	Major Uses: used in diazotized form to retain the fastness of dyes after washings; to producd azo dye acid violet; to produce azo dyd acid green 20; used to produce azo dye direct yellow; used as an intermediate for producing p-phenylenediamine

Validated by Sonia Owen on 8/7/2009.

Verified by Sonia Owen.

Printed 8/7/2009.

CALL (310) 516-8000

Notice to Reader