



# Material Safety Data Sheet

<p><b>NFPA</b></p> 	<p><b>HMIS</b></p> <table border="1" style="margin: auto;"> <tr><td style="background-color: #00FFFF;">Health Hazard</td><td style="text-align: center;">2</td></tr> <tr><td style="background-color: #FFCCCC;">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	2	Fire Hazard	0	Reactivity	0	<p><b>Personal Protective Equipment</b></p>  <p>See Section 15.</p>
Health Hazard	2							
Fire Hazard	0							
Reactivity	0							

Section 1. Chemical Product and Company Identification		Page Number: 1
<b>Common Name/Trade Name</b>	Nickel nitrate, hexahydrate	<b>Catalog Number(s).</b> YY1740, N1267, N1062
		<b>CAS#</b> 13478-00-7; 3138-45-9 (anhydrous CAS no.)
<b>Manufacturer</b>	SPECTRUM LABORATORY PRODUCTS INC. 14422 S. SAN PEDRO STREET GARDENA, CA 90248	<b>RTECS</b> QR7300000
		<b>TSCA</b> TSCA 8(b) inventory: Nickel Nitrate hexahydrate (CAS no. 13478-007) is not listed on the TSCA 8(b) inventory since it is a hydrate. However, the anhydrous form (CAS no. 3138-45-9) is listed on the TSCA 8(b) inventory
<b>Commercial Name(s)</b>	Not available.	<b>CI#</b> Not available.
<b>Synonym</b>	Nickel dinitrate hexahydrate; Nickel (2+) dinitrate hexahydrate; Nickel (2+) nitrate, hexahydrate; Nickelous nitrate hexahydrate; Nitric acid, nickel (2+) salt, hexahydrate	<p style="text-align: center;"><b><u>IN CASE OF EMERGENCY</u></b> <b><u>CHEMTREC (24hr) 800-424-9300</u></b></p> <p>CALL (310) 516-8000</p>
<b>Chemical Name</b>	Nickel (II) Nitrate, hexahydrate	
<b>Chemical Family</b>	Not available.	
<b>Chemical Formula</b>	Ni(NO <sub>3</sub> ) <sub>2</sub> ·6H <sub>2</sub> O	
<b>Supplier</b>	SPECTRUM LABORATORY PRODUCTS INC. 14422 S. SAN PEDRO STREET 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) Nickel nitrate, hexahydrate	13478-00-7; 3138-45-9 (anhydrous CAS no.)	1			100
<b>Toxicological Data on Ingredients</b>					
<p><b>Nickel nitrate, hexahydrate:</b>          ORAL (LD50): Acute: 1620 mg/kg [Rat].</p>					

**Section 3. Hazards Identification**

<b>Potential Acute Health Effects</b>	Hazardous in case of skin contact (irritant), of eye contact (irritant), of inhalation (lung irritant). Slightly hazardous in case of ingestion. Prolonged exposure may result in skin burns and ulcerations. Over-exposure by inhalation may cause respiratory irritation.
<b>Potential Chronic Health Effects</b>	Slightly hazardous in case of skin contact (sensitizer). <b>CARCINOGENIC EFFECTS:</b> Classified 1 (Proven for human.) by IARC. <b>MUTAGENIC EFFECTS:</b> Not available. <b>TERATOGENIC EFFECTS:</b> Not available. <b>DEVELOPMENTAL TOXICITY:</b> Not available. The substance is toxic to lungs, the nervous system, mucous membranes. Repeated or prolonged exposure to the substance can produce target organs damage.

**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.
<b>Skin Contact</b>	In case of contact, immediately flush skin with plenty of water. Cover the irritated skin with an emollient. Remove contaminated clothing and shoes. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.
<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.
<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>	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.
<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>	of organic materials of combustible materials
<b>Explosion Hazards in Presence of Various Substances</b>	Risks of explosion of the product in presence of mechanical impact: Not available. Slightly explosive in presence of open flames and sparks, of heat.
<b>Fire Fighting Media and Instructions</b>	Not applicable.
<b>Special Remarks on Fire Hazards</b>	When heated to decomposition it emits very toxic fumes of nitrogen oxides. Contact with wood, oil, clothing or paper or other combustible materials may cause fire.
<b>Special Remarks on Explosion Hazards</b>	Not available.

**Section 6. Accidental Release Measures**

<b>Small Spill</b>	Use appropriate tools to put the spilled solid in a convenient waste disposal container.
<b>Large Spill</b>	Oxidizing material. Stop leak if without risk. Avoid contact with a combustible material (wood, paper, oil, clothing...). Keep substance damp using water spray. Do not touch spilled material. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal. 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 away from heat. Keep away from sources of ignition. Keep away from combustible material.. Do not ingest. Do not breathe dust. Wear suitable protective clothing. 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. Keep away from incompatibles such as reducing agents, combustible materials, organic materials.
<b>Storage</b>	Keep container tightly closed. Keep container in a cool, well-ventilated area. Separate from acids, alkalis, reducing agents and combustibles. See NFPA 43A, Code for the Storage of Liquid and Solid Oxidizers.

**Section 8. Exposure Controls/Personal Protection**

<b>Engineering Controls</b>	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.
<b>Personal Protection</b>	Splash goggles. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.
<b>Personal Protection in Case of a Large Spill</b>	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.
<b>Exposure Limits</b>	TWA: 0.1 (mg(Ni)/m <sup>3</sup> ) from ACGIH (TLV) [United States] TWA: 1 (mg(Ni)/m <sup>3</sup> ) from OSHA (PEL) [United States]  Consult local authorities for acceptable exposure limits.

**Section 9. Physical and Chemical Properties**

<b>Physical state and appearance</b>	Solid. (Crystalline solid. Deliquescent solid.)	<b>Odor</b>	Odorless.
<b>Molecular Weight</b>	290.81 g/mole	<b>Taste</b>	Not available.
<b>pH (1% soln/water)</b>	Not available.	<b>Color</b>	Green.
<b>Boiling Point</b>	137°C (278.6°F)		
<b>Melting Point</b>	56.7°C (134.1°F)		
<b>Critical Temperature</b>	Not available.		
<b>Specific Gravity</b>	2.05 (Water = 1)		
<b>Vapor Pressure</b>	Not applicable.		
<b>Vapor Density</b>	Not available.		
<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.		
<b>Solubility</b>	Easily soluble in cold water, hot water.		

**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>	Highly reactive with combustible materials, organic materials. Reactive with reducing agents.
<b>Corrosivity</b>	Non-corrosive in presence of glass.
<b>Special Remarks on Reactivity</b>	Strong oxidizing agent. It loses water on heating and eventually decomposes to form nickel oxide
<b>Special Remarks on Corrosivity</b>	Not available.
<b>Polymerization</b>	Will not occur.

**Section 11. Toxicological Information**

<b>Routes of Entry</b>	Inhalation. Ingestion.
<b>Toxicity to Animals</b>	Acute oral toxicity (LD50): 1620 mg/kg [Rat].
<b>Chronic Effects on Humans</b>	<b>CARCINOGENIC EFFECTS:</b> Classified 1 (Proven for human.) by IARC. Causes damage to the following organs: lungs, the nervous system, mucous membranes
<b>Other Toxic Effects on Humans</b>	Hazardous in case of skin contact (irritant), of inhalation (lung irritant). Slightly hazardous in case of ingestion.
<b>Special Remarks on Toxicity to Animals</b>	Not available.
<b>Special Remarks on Chronic Effects on Humans</b>	Can cause cancer
<b>Special Remarks on other Toxic Effects on Humans</b>	<p>Acute Potential Health Effects:</p> <p>Skin: Can cause skin irritation. Eyes: Can cause eye irritation.</p> <p>Inhalation: Breathing in dust can cause respiratory tract (nose, throat, lung) irritation causing chest pain, coughing, wheezing, hoarseness, sore throat, and shortness of breath. May also affect behavior/central nervous system and respiration and cause headache, dizziness, vertigo, weakness, somnolence, tachypnea, dyspnea.</p> <p>Ingestion: Ingestion may cause gastroenteritis, nausea, vomiting, abdominal pain, and diarrhea. Ingestion of nickel or nickel compounds may damage the kidneys(hematuria, proteinuria), and may affect liver (increase in hepatic enzymes, hepatic necrosis. It may also affect behavior (headache, giddiness, somnolence), and cardiovascular system (increased coronary artery resistance, decreased myocardial contractility, myocardial damage, regional or general arteriolar or venous dilation). This product is also a nitrate. The toxicity of nitrates is due to the in vivo conversion to nitrites. The primary toxic effects of nitrites include orthostatic hypotension (due to peripheral vasodilation) and methemoglobinemia (the formation of methemoglobin in the blood which causes deficient oxygenation of the blood due to decreased available hemoglobin). Other symptoms may include muscular weakness, dizziness, lightheadness, fatigue, throbbing headache, mental impairment, incoordination, seizures convulsions, bradycardia or tachycardia (slow or fast heart beat), dysrhythmias, dyspnea. Furthermore, methemoglobinemia due to inadequate oxygenation of the blood can lead to progressive cyanosis, and coma. Cyanosis is first visible as a bluish discoloration of the mucous membranes and unpigmented areas of the body.</p> <p>Chronic Potential Health Effects:</p> <p>Skin: May cause skin allergy. Nickel and nickel compounds are among the most common sensitizers inducing allergic contact dermatitis.</p> <p>Inhalation: Chronic inhalation nickel or nickel compounds can cause chronic hypertrophic rhinitis, sinusitis, nasal polyps, perforation of the nasal septum, chronic pulmonary irritation, fibrosis, pulmonary edema, pulmonary eosinophilia, Pneumoconiosis, allergies (asthma-like allergy), and cancer of the nasal sinus cavities, lungs, and possibly other organs. Future exposures can cause asthma attacks with shortness of breath, wheezing, cough, and/or chest tightness. Chronic inhalation of nickel or nickel compounds may also affect the liver (impaired liver function tests), and blood (changes in red blood cell count).</p> <p>Ingestion: Prolonged or repeated ingestion of nickel or nickel compounds can be a source chronic urticaria and other signs of allergy. Chronic ingestion of Nickel or nickel compounds may also affect respiration and cause pneumoconiosis or fibrosis.</p>

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This product is a nitrate. The clinical effects of chronic exposure to nitrates via ingestion are as follows: Under some circumstances methemoglobinemia occurs individuals when the nitrate is converted by bacteria in the stomach to the nitrite. Nausea, vomiting, dizziness, rapid or slow heart beat, irregular breathing, convulsions, coma and death can occur should this conversion take place. Repeated or prolonged ingestion may also affect the liver and cause anorexia (weight loss).


### 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.
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### Section 14. Transport Information

DOT Classification	CLASS 5.1: Oxidizing material.
Identification	: Nickel nitrate UNNA: 2725 PG: III
Special Provisions for Transport	Not available.
DOT (Pictograms)	

### Section 15. Other Regulatory Information and Pictograms

Federal and State Regulations	<p>California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer, birth defects or other reproductive harm, which would require a warning under the statute: Nickel nitrate, hexahydrate (Listed as Nickel and Nickel compounds)</p> <p>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: Nickel nitrate, hexahydrate (Listed as Nickel and Nickel compounds)</p> <p>New York release reporting list: Nickel nitrate (CAS no. 3138-45-9)</p> <p>Pennsylvania RTK: Nickel nitrate (CAS no. 3138-45-9)</p> <p>Massachusetts RTK: Nickel nitrate (CAS no. 3138-45-9)</p> <p>Massachusetts spill list: Nickel nitrate (CAS no. 3138-45-9)</p> <p>New Jersey: Nickel nitrate (CAS no. 3138-45-9)</p> <p>New Jersey spill list: Nickel nitrate (CAS no. 3138-45-9)</p> <p>Louisiana RTK reporting list: Nickel nitrate (CAS no. 3138-45-9)</p> <p>California Director's List of Hazardous Substances: Nickel nitrate, hexahydrate (Listed as Nickel Nitrate and Nickel compounds)</p> <p>SARA 313 toxic chemical notification and release reporting: Nickel nitrate, hexahydrate (Listed as Nickel and Nickel compounds)</p> <p>CERCLA: Hazardous substances.: Nickel nitrate: 100 lbs. (45.36 kg)</p>
California Proposition 65 Warnings	<p>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: Nickel nitrate, hexahydrate</p> <p>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.</p>
Other Regulations	

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OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).  
 EINECS: This product is not listed on the European Inventory of Existing Commercial Chemical Substances.  
 Canada: Not listed on Canadian Domestic Substance List (DSL) or Canadian Non-Domestic Substances List (NDSL)  
 China: Listed on National Inventory.  
 Japan: Not listed on National Inventory (ENCS).  
 Korea: Not listed on National Inventory (KECI).  
 Philippines: Listed on National Inventory (PICCS).  
 Australia: Listed on AICS.


**Other Classifications**

<b>WHMIS (Canada)</b>	CLASS C: Oxidizing material. CLASS D-2A: Material causing other toxic effects (VERY TOXIC).												
<b>DSCL (EEC)</b>	<table border="0"> <tr> <td>R8- Contact with combustible material may cause fire.</td> <td>S17- Keep away from combustible material.</td> </tr> <tr> <td>R22- Harmful if swallowed.</td> <td>S26- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.</td> </tr> <tr> <td>R36/37- Irritating to eyes and respiratory system.</td> <td>S37- Wear suitable gloves.</td> </tr> <tr> <td>R40- Limited evidence of carcinogenic effect.</td> <td>S45- In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).</td> </tr> <tr> <td>R42/43- May cause sensitization by inhalation and skin contact.</td> <td>S46- If swallowed, seek medical advice immediately and show this container or label.</td> </tr> <tr> <td></td> <td>S53- Avoid exposure - obtain special instructions before use.</td> </tr> </table>	R8- Contact with combustible material may cause fire.	S17- Keep away from combustible material.	R22- Harmful if swallowed.	S26- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.	R36/37- Irritating to eyes and respiratory system.	S37- Wear suitable gloves.	R40- Limited evidence of carcinogenic effect.	S45- In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).	R42/43- May cause sensitization by inhalation and skin contact.	S46- If swallowed, seek medical advice immediately and show this container or label.		S53- Avoid exposure - obtain special instructions before use.
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**HMIS (U.S.A.)**

Health Hazard	2
Fire Hazard	0
Reactivity	0
Personal Protection	E

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



Splash goggles.

**Section 16. Other Information****MSDS Code** N3280**References** Not available.**Other Special Considerations** Uses: Catalyst to remove waste gas containing ozone from waste water; as a marker to distinguish between treated and untreated horn flies when placed in larval rearing medium; nickel plating; manufacture of brown ceramic colors; in batteries; colorant for glass; treatment of brown spot disease on rice seedlings.

Validated by Sonia Owen on 11/18/2013.

Verified by Sonia Owen.

Printed 11/18/2013.

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.*