



# Material Safety Data Sheet

<b>NFPA</b>  	<b>HMIS</b>  <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="background-color: #00FFFF;">Health Hazard</td> <td style="text-align: center; border: 1px solid black;">3</td> </tr> <tr> <td style="background-color: #FFCCCC;">Fire Hazard</td> <td style="text-align: center; border: 1px solid black;">3</td> </tr> <tr> <td style="background-color: #FFFF00;">Reactivity</td> <td style="text-align: center; border: 1px solid black;">2</td> </tr> </table>	Health Hazard	3	Fire Hazard	3	Reactivity	2	<b>Personal Protective Equipment</b>    See Section 15.
Health Hazard	3							
Fire Hazard	3							
Reactivity	2							

Section 1. Chemical Product and Company Identification		Page Number: 1
<b>Common Name/ Trade Name</b>	Vitride, 70% in Toluene	<b>Catalog Number(s).</b> V1050
		<b>CAS#</b> Mixture.
<b>Manufacturer</b>	SPECTRUM LABORATORY PRODUCTS INC. 14422 S. SAN PEDRO STREET GARDENA, CA 90248	<b>RTECS</b> Not applicable.
		<b>TSCA</b> TSCA 8(b) inventory: Vitride; Toluene
<b>Commercial Name(s)</b>	Not available.	<b>CI#</b> Not available.
<b>Synonym</b>	Not available.	<b>IN CASE OF EMERGENCY</b> <a href="tel:800-424-9300">CHEMTREC (24hr) 800-424-9300</a>  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. 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) Vitride	22722-98-1				70
2) Toluene	108-88-3	100	150		30
<b>Toxicological Data on Ingredients</b>	<b>Vitride</b> LD50: Not available. LC50: Not available.  <b>Toluene:</b> ORAL (LD50): Acute: 636 mg/kg [Rat]. DERMAL (LD50): Acute: 14100 mg/kg [Rabbit]. VAPOR (LC50): Acute: 49000 mg/m <sup>3</sup> 4 hours [Rat]. 400 ppm 24 hours [Mouse]. 30000 mg/m <sup>3</sup> 2 hours [Mouse]. 19900 mg/m <sup>3</sup> 7 hours [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), of 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. Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.

<b>Potential Chronic Health Effects</b>	<p><b>CARCINOGENIC EFFECTS:</b> Classified A4 (Not classifiable for human or animal.) by ACGIH, 3 (Not classifiable for human.) by IARC [Toluene].</p> <p><b>MUTAGENIC EFFECTS:</b> Not available.</p> <p><b>TERATOGENIC EFFECTS:</b> Not available.</p> <p><b>DEVELOPMENTAL TOXICITY:</b> Not available.</p> <p>The substance may be toxic to blood, kidneys, the nervous system, liver, brain, central nervous system (CNS).</p> <p>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.</p>
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#### 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. 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. 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. <b>WARNING:</b> It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or corrosive. Seek immediate medical attention.
<b>Ingestion</b>	If swallowed, do NOT induce vomiting. 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. Aspiration hazard if swallowed- can enter lungs and cause damage. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention.
<b>Serious Ingestion</b>	Not available.

#### Section 5. Fire and Explosion Data

<b>Flammability of the Product</b>	Flammable.
<b>Auto-Ignition Temperature</b>	The lowest known value is 480°C (896°F) (Toluene).
<b>Flash Points</b>	CLOSED CUP: 4°C (39.2°F).
<b>Flammable Limits</b>	The greatest known range is LOWER: 1.1% UPPER: 7.1% (Toluene)
<b>Products of Combustion</b>	These products are carbon oxides (CO, CO <sub>2</sub> ). Some metallic oxides.
<b>Fire Hazards in Presence of Various Substances</b>	Highly flammable in presence of open flames and sparks, of heat. Flammable in presence of moisture. Non-flammable in presence of shocks.
<b>Explosion Hazards in Presence of Various Substances</b>	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.
<b>Fire Fighting Media and Instructions</b>	Flammable liquid, insoluble in water. SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray or fog. Never direct a water jet in the container in order to prevent any splashing of the product which could cause spreading of the fire. Cool containing vessels with water jet in order to prevent pressure build-up, autoignition or explosion.
<b>Special Remarks on Fire Hazards</b>	Reacts violently with water releasing flammable hydrogen gas Vapor may travel considerable distance to source of ignition and flash back.
<b>Special Remarks on Explosion Hazards</b>	Toluene forms explosive reaction with 1,3-dichloro-5,5-dimethyl-2,4-imidazolidione; dinitrogen tetraoxide; concentrated nitric acid, sulfuric acid + nitric acid; N <sub>2</sub> O <sub>4</sub> ; AgClO <sub>4</sub> ; BrF <sub>3</sub> ; Uranium hexafluoride; sulfur dichloride. Also forms an explosive mixture with tetranitromethane. (Toluene)

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**Section 6. Accidental Release Measures**

<b>Small Spill</b>	Absorb with an inert material and put the spilled material in an appropriate waste disposal.
<b>Large Spill</b>	Toxic flammable liquid, insoluble or very slightly soluble in water. Corrosive liquid. Keep away from heat. Keep away from sources of ignition. 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. 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 container dry. Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. 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. Keep away from incompatibles such as oxidizing agents, combustible materials, moisture.
<b>Storage</b>	Keep container tightly closed. Keep container in a cool, well-ventilated area. Keep from any possible contact with water. Do not allow water to get into container because of violent reaction.

**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. Ensure that eyewash stations and safety showers are proximal to the work-station location.
<b>Personal Protection</b>	Face shield. Full suit. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Gloves. Boots.
<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>Toluene</b>                      TWA: 200 STEL: 500 CEIL: 300 (ppm) from OSHA (PEL) [United States]                      TWA: 50 (ppm) from ACGIH (TLV) [United States] SKIN                      TWA: 100 STEL: 150 from NIOSH [United States]                      TWA: 375 STEL: 560 (mg/m<sup>3</sup>) from NIOSH [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>	Not applicable.	<b>Color</b>	Not available.
<b>Boiling Point</b>	110°C (230°F)		
<b>Melting Point</b>	May start to solidify at -95°C (-139°F) based on data for: Toluene.		
<b>Critical Temperature</b>	The lowest known value is 318.6°C (605.5°F) (Toluene).		
<b>Specific Gravity</b>	1.036 (Water = 1)		
<b>Vapor Pressure</b>	The highest known value is 3.8 kPa (@ 20°C) (Toluene).		
<b>Vapor Density</b>	The highest known value is 3.1 (Air = 1) (Toluene).		
<b>Volatility</b>	Not available.		
<b>Odor Threshold</b>	The highest known value is 1.6 ppm (Toluene)		
<b>Water/Oil Dist. Coeff.</b>	Not available.		
<b>Ionicity (in Water)</b>	Not available.		
<b>Dispersion Properties</b>	See solubility in water, diethyl ether, acetone.		

**Solubility** Soluble in diethyl ether, acetone.  
Insoluble in cold water.

### Section 10. Stability and Reactivity Data

**Stability** The product is stable.

**Instability Temperature** Not available.

**Conditions of Instability** Heat, ignition sources, water/moisture, incompatible materials.

**Incompatibility with various substances** Reactive with oxidizing agents, combustible materials, moisture.  
The product reacts violently with water to emit flammable but non toxic gases.

**Corrosivity** Non-corrosive in presence of glass.

**Special Remarks on Reactivity** Reacts violently with water releasing flammable hydrogen gas.  
Incompatible with compounds which possess active hydrogen (e.g. protic solvents such as alcohols, etc.)  
Avoid contact with paper, cloth and other cellulose-based materials. Evolves hydrogen on contact with water.  
Incompatible with strong oxidizers, silver perchlorate, sodium difluoride, Tetranitromethane, Uranium Hexafluoride.  
Frozen Bromine Trifluoride reacts violently with Toluene at -80 deg. C.  
Reacts chemically with nitrogen oxides, or halogens to form nitrotoluene, nitrobenzene, and nitrophenol and halogenated products, respectively.

**Special Remarks on Corrosivity** Not available.

**Polymerization** Will not occur.

### Section 11. Toxicological Information

**Routes of Entry** Absorbed through skin. Eye contact. Inhalation. Ingestion.

**Toxicity to Animals** Acute oral toxicity (LD50): 636 mg/kg [Rat]. (Toluene).  
Acute dermal toxicity (LD50): 14100 mg/kg [Rabbit]. (Toluene).

**Chronic Effects on Humans** **CARCINOGENIC EFFECTS:** Classified A4 (Not classifiable for human or animal.) by ACGIH, 3 (Not classifiable for human.) by IARC [Toluene].  
Contains material which may cause damage to the following organs: blood, kidneys, the nervous system, liver, brain, central nervous system (CNS).

**Other Toxic Effects on Humans** Very hazardous in case of skin contact (irritant), of ingestion.  
Hazardous in case of skin contact (corrosive), of eye contact (corrosive), of inhalation.

**Special Remarks on Toxicity to Animals** Lowest Published Lethal Dose:  
LDL [Human] - Route: Oral; Dose: 50 mg/kg  
LCL [Rabbit] - Route: Inhalation; Dose: 55000 ppm/40min (Toluene)

**Special Remarks on Chronic Effects on Humans** Detected in maternal milk in human. Passes through the placental barrier in human. Embryotoxic and/or foetotoxic in animal. May cause adverse reproductive effects and birth defects (teratogenic). May affect genetic material (mutagenic) (Toluene)

**Special Remarks on other Toxic Effects on Humans** Acute Potential Health Effects:  
Skin: Causes severe irritation and burns. It may be absorbed through the skin  
Eyes: Causes severe irritation and burns.  
Inhalation: Inhalation of Toluene vapor may cause respiratory tract irritation causing coughing and wheezing, and nasal discharge. Inhalation of high concentrations may affect behavior and cause central nervous system effects characterized by nausea, headache, dizziness, tremors, restlessness, lightheadedness, exhilaration, memory loss, insomnia, impaired reaction time, drowsiness, ataxia, hallucinations, somnolence, muscle contraction or spasticity, unconsciousness and coma. Inhalation of high concentration of vapor may also affect the cardiovascular system (rapid heart beat, heart palpitations, increased or decreased blood pressure, dysrhythmia, ), respiration (acute pulmonary edema, respiratory depression, apnea, asphyxia), cause vision disturbances and dilated pupils, and cause loss of appetite.  
Ingestion: Aspiration hazard. Aspiration of Toluene into the lungs may cause chemical pneumonitis. May cause irritation of the digestive tract with nausea, vomiting, pain. May have effects similar to that of acute inhalation.  
Chronic Potential Health Effects:  
Inhalation and Ingestion: Prolonged or repeated exposure of Toluene via inhalation may cause central nervous system and cardiovascular symptoms similar to that of acute inhalation and ingestion as well liver damage/failure, kidney damage/failure (with hematuria, proteinuria, oliguria, renal tubular acidosis), brain

damage, weight loss, blood (pigmented or nucleated red blood cells, changes in white blood cell count), bone marrow changes, electrolyte imbalances (Hypokalemia, Hypophostatemia), severe, muscle weakness and Rhabdomyolysis.


**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**

<b>Waste Disposal</b>	Waste must be disposed of in accordance with federal, state and local environmental control regulations.
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**Section 14. Transport Information**

<b>DOT Classification</b>	CLASS 4.3: Dangerous when wet material. CLASS 3: Flammable liquid. Class 8: Corrosive material
<b>Identification</b>	UNNA: 1409 : Metal Hydride, Water-Reactive, n.o.s. (Sodium Bis(2-methoxyethoxy) aluminum Hydride) PG: I
<b>Special Provisions for Transport</b>	Not available.
<b>DOT (Pictograms)</b>	

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

<b>Federal and State Regulations</b>	<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: Toluene</p> <p>California prop. 65: This product contains the following ingredients for which the State of California has found to cause reproductive harm (female) which would require a warning under the statute: Toluene</p> <p>California prop. 65 (no significant risk level): Toluene: 7 mg/day (value)</p> <p>California prop. 65 (acceptable daily intake level): Toluene: 7 mg/day (value)</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: Toluene</p> <p>Connecticut hazardous material survey.: Toluene</p> <p>Illinois toxic substances disclosure to employee act: Toluene</p> <p>Illinois chemical safety act: Toluene</p> <p>New York release reporting list: Toluene</p> <p>Rhode Island RTK hazardous substances: Toluene</p> <p>Pennsylvania RTK: Toluene</p> <p>Florida: Toluene</p> <p>Minnesota: Toluene</p> <p>Michigan critical material: Toluene</p> <p>Massachusetts RTK: Toluene</p> <p>Massachusetts spill list: Toluene</p> <p>New Jersey: Toluene</p> <p>New Jersey spill list: Toluene</p> <p>Louisiana spill reporting: Toluene</p> <p>TSCA 8(b) inventory: Vitride; Toluene</p>
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TSCA 8(d) H and S data reporting: Toluene: Effective date: 10/04/82; Sunset Date: 10/0/92  
 SARA 313 toxic chemical notification and release reporting: Toluene 30%  
 CERCLA: Hazardous substances.: Toluene: 1000 lbs. (453.6 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: Toluene

**Other Regulations**

OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).  
 For Vitride (CAS no. 22722-98-1):  
 EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances. (EINECS No. 245-178-2).  
 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.  
 For Toluene (CAS no. 108-88-3):  
 EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances. (EINECS No. 203-625-9).  
 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 B-2: Flammable liquid with a flash point lower than 37.8°C (100°F).  
 CLASS D-2A: Material causing other toxic effects (VERY TOXIC).  
 CLASS E: Corrosive liquid.  
 CLASS F: Dangerously reactive material.





**DSCL (EEC)**

R11- Highly flammable.	S8- Keep container dry.
R14/15- Reacts violently with water, liberating extremely flammable gases.	S9- Keep container in a well-ventilated place.
R34- Causes burns.	S16- Keep away from sources of ignition - No smoking.
R48/20- Harmful: danger of serious damage to health by prolonged exposure through inhalation.	S26- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
R63- Possible risk of harm to the unborn child.	S29- Do not empty into drains.
R65- Harmful: may cause lung damage if swallowed.	S36/37/39- Wear suitable protective clothing, gloves and eye/face protection.
R37- Irritating to respiratory system.	S45- In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
R67- Vapors may cause drowsiness and dizziness.	

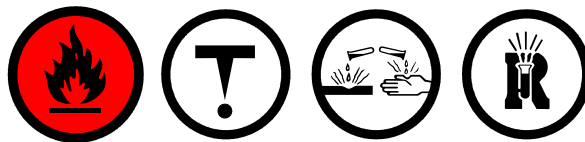
**HMIS (U.S.A.)**

Health Hazard	3
Fire Hazard	3
Reactivity	2
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** V3201

**References** Not available.

**Other Special Considerations** Not available.

Validated by Sonia Owen on 11/3/2010.

Verified by Sonia Owen.

Printed 11/3/2010.

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.*