

GARDENA, CA
NEW BRUNSWICK, NJ

Material Safety Data Sheet

NFPA	HMIS	Personal Protective Equipment						
	<table><tr><td>Health Hazard</td><td>2</td></tr><tr><td>Fire Hazard</td><td>1</td></tr><tr><td>Reactivity</td><td>0</td></tr></table>	Health Hazard	2	Fire Hazard	1	Reactivity	0	 See Section 15.
Health Hazard	2							
Fire Hazard	1							
Reactivity	0							

Section 1. Chemical Product and Company Identification

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Common Name/ Trade Name	Tizanidine Hydrochloride	Catalog Number(s).	T3452
Manufacturer	SPECTRUM LABORATORY PRODUCTS INC. 14422 S. SAN PEDRO STREET GARDENA, CA 90248	CAS#	64461-82-1
Commercial Name(s)	Zanaflex	RTECS	DK9910000
Synonym	5-Chloro-4-(2-imidazolin-2-ylamino)-2,1,3-benzothiadiazole hydrochloride	TSCA	TSCA 8(b) inventory: No products were found.
Chemical Name	2,1,3-Benzothiadiazol-4-amine, 5-chloro-N(4,5-dihydro-1H-imidazol-2-yl)-, monohydrochloride	CI#	Not available.
Chemical Family	Not available.	IN CASE OF EMERGENCY CHEMTREC (24hr) 800-424-9300 CALL (310) 516-8000	
Chemical Formula	C9-H8-Cl-N5-S.HCl		
Supplier	SPECTRUM LABORATORY PRODUCTS INC. 14422 S. SAN PEDRO STREET GARDENA, CA 90248		

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) Tizanidine Hydrochloride	64461-82-1				100

Toxicological Data on Ingredients

Tizanidine Hydrochloride:

ORAL (LD50): Acute: 414 mg/kg [Rat]. 235 mg/kg [Mouse]. 98 mg/kg [Rabbit].

Section 3. Hazards Identification

Potential Acute Health Effects

Hazardous in case of ingestion. Slightly hazardous in case of skin contact (irritant), of eye contact (irritant), of inhalation.

Potential Chronic Health Effects

CARCINOGENIC EFFECTS: Not available.
MUTAGENIC EFFECTS: Not available.
TERATOGENIC EFFECTS: Not available.
DEVELOPMENTAL TOXICITY: Not available.
The substance may be toxic to liver, central nervous system (CNS).
Repeated or prolonged exposure to the substance can produce target organs damage.

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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	Not available.
Flammable Limits	Not available.
Products of Combustion	These products are carbon oxides (CO, CO ₂), nitrogen oxides (NO, NO ₂ ...), sulfur oxides (SO ₂ , SO ₃ ...), halogenated compounds.
Fire Hazards in Presence of Various Substances	Slightly flammable to flammable in presence of heat.
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.
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	Material in powder form, capable of creating a dust explosion. As with most organic solids, fire is possible at elevated temperatures.
Special Remarks on Explosion Hazards	Fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.

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.

Section 7. Handling and Storage

Precautions	Keep away from heat. Keep away from sources of ignition. Empty containers pose a fire risk; evaporate the residue under a fume hood. 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. Keep away from incompatibles such as oxidizing agents.
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	Not available.

Section 9. Physical and Chemical Properties

Physical state and appearance	Solid. (Crystalline powder.)	Odor	Odorless or with a faint characteristic odor
Molecular Weight	290.17 g/mole	Taste	Not available.
pH (1% soln/water)	Not available.	Color	White. Off-white.
Boiling Point	Not available.		
Melting Point	Not available.		
Critical Temperature	Not available.		
Specific Gravity	Not available.		
Vapor Pressure	Not applicable.		
Vapor Density	Not available.		
Volatility	Not available.		
Odor Threshold	Not available.		
Water/Oil Dist. Coeff.	The product is more soluble in oil; log(oil/water) = 0.7		
Ionicity (in Water)	Not available.		
Dispersion Properties	Not available.		
Solubility	Very slightly soluble in cold water, methanol.		

Section 10. Stability and Reactivity Data

Stability	The product is stable.
Instability Temperature	Not available.
Conditions of Instability	Excess heat, incompatible materials
Incompatibility with various substances	Reactive with oxidizing agents

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Corrosivity Not available.

Special Remarks on Reactivity Not available.

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): 98 mg/kg [Rabbit].

Chronic Effects on Humans May cause damage to the following organs: liver, central nervous system (CNS).

Other Toxic Effects on Humans Hazardous in case of ingestion.
Slightly hazardous in case of skin contact (irritant), of inhalation.

Special Remarks on Toxicity to Animals Not available.

Special Remarks on Chronic Effects on Humans May cause adverse reproductive effects and birth defects (teratogenic)

Special Remarks on other Toxic Effects on Humans Potential Health Effects
Skin: May cause skin irritation.
Eyes: May cause eye irritation.
Inhalation: May cause respiratory tract irritation.
Ingestion: Harmful if swallowed. May cause dry mouth, abdominal pain, vomiting, constipation, diarrhea, rash, sweating, increased urinary frequency. May affect behavior/central nervous system (tremor, somnolence, dizziness, nervousness, dyskinesia, hallucinations, anxiety, depression, paresthesia, asthenia, convulsions), respiration (dyspnea), liver (abnormal liver function tests, hepatitis), spleen, endocrine system, cardiovascular system (hypotension, bradycardia), musculoskeletal system (back pain, myasthenia). May also cause amlyopia, pharyngitis, rhinitis.
Medical Conditions Aggravated by Exposure: Liver disease; interactions with the following drugs: ACE inhibitors - effects of ACE inhibitors may be increased possibly resulting in hypotension; Acetaminophen - time to reach actaminophen peak concentrations may be delayed; alcohol; Fluvoxamine - resulting in significant hypotension; Quinolone antibiotics; Rofecoxib - adverse reactions of Tizanidine may be potentiated; Antidepressants.

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 as toxic as 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 No products were found.

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).
EINECS: This product is not on the European Inventory of Existing Commercial Chemical Substances.
Canada: Not listed on Canadian Domestic Substance List (DSL) or Canadian Non- Domestic Substance List (NDSL).
China: Not listed on National Inventory.
Japan: Not listed on National Inventory (ENCS).
Korea: Not listed on National Inventory (KECI).
Philippines: Not listed on National Inventory (PICCS).
Australia: Not listed on AICS.

Other Classifications

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

DSCL (EEC) R22- Harmful if swallowed. S46- If swallowed, seek medical advice immediately and show this container or label.

HMS (U.S.A.)

Health Hazard	2
Fire Hazard	1
Reactivity	0
Personal Protection	E

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.

Section 16. Other Information

MSDS Code

T2013

References

Not available.

Other Special
Considerations

It is a muscle relaxant, and an anticonvulsant.

Validated by Sonia Owen on 1/15/2009.

Verified by Sonia Owen.

Printed 3/13/2009.

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.