



Material Safety Data Sheet

NFPA 	HMIS <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="background-color: #00FFFF;">Health Hazard</td> <td style="text-align: center;">2</td> </tr> <tr> <td style="background-color: #FFC0CB;">Fire Hazard</td> <td style="text-align: center;">1</td> </tr> <tr> <td style="background-color: #FFFF00;">Reactivity</td> <td style="text-align: center;">0</td> </tr> </table>	Health Hazard	2	Fire Hazard	1	Reactivity	0	Personal Protective Equipment See Section 15.
Health Hazard	2							
Fire Hazard	1							
Reactivity	0							

Section 1. Chemical Product and Company Identification		<i>Page Number: 1</i>
Common Name/Trade Name	Ouabain, octahydrate	
Manufacturer	SPECTRUM LABORATORY PRODUCTS INC. 14422 S. SAN PEDRO STREET GARDENA, CA 90248	
Commercial Name(s)	Not available.	
Synonym	Acocantherin; Astrobain; Gratibain; Ouabegenin L-rhamnoside, octahydrate; Ouabaine, octahydrate; Purostrophan; Strophanthiin G Strophoperm; Card-20(22)-enolide, 3-[(6-deoxy-alpha-L-mannopyranosyl)oxy]-1,5,11,14,19-pentahydroxy-beta,3 beta, 5 beta, 11 alpha)-, octahydrate	
Chemical Name	Not available.	
Chemical Family	Not available.	
Chemical Formula	C29-H44-O12.8H2O	
Supplier	SPECTRUM LABORATORY PRODUCTS INC. 14422 S. SAN PEDRO STREET GARDENA, CA 90248	
Catalog Number(s)	O3291	
CAS#	11018-89-6; 630-60-4(CAS no. for anhydrous form)	
RTECS	RN3850000	
TSCA	TSCA 8(b) inventory: No products were found.	
CI#	Not available.	
<u>IN CASE OF EMERGENCY</u> <u>CHEMTREC (24hr) 800-424-9300</u> CALL (310) 516-8000		

Section 2. Composition and Information on Ingredients					
Name		<i>Exposure Limits</i>			
CAS #	TWA (mg/m ³)	STEL (mg/m ³)	CEIL (mg/m ³)	% by Weight	
1) Ouabain, octahydrate	11018-89-6; 630-60-4(CAS no. for anhydrous form)				100
Toxicological Data on Ingredients		Ouabain, octahydrate LD50: Not available. LC50: Not available.			

Section 3. Hazards Identification

Potential Acute Health Effects	Very hazardous in case of ingestion. Hazardous in case of inhalation. Slightly hazardous in case of skin contact (irritant), of eye contact (irritant). Severe over-exposure can result in death.
Potential Chronic Health Effects	<p>CARCINOGENIC EFFECTS: Not available.</p> <p>MUTAGENIC EFFECTS: Mutagenic for mammalian somatic cells.</p> <p>TERATOGENIC EFFECTS: Not available.</p> <p>DEVELOPMENTAL TOXICITY: Not available.</p> <p>The substance may be toxic to heart, cardiovascular system.</p> <p>Repeated or prolonged exposure to the substance can produce target organs damage. Repeated exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.</p>

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. 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 immediately.
Serious Inhalation	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. WARNING: 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.
Ingestion	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.
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).
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	As with most organic solids, fire is possible at elevated temperatures
Special Remarks on Explosion Hazards	Not available.

Section 6. Accidental Release Measures

Small Spill	Use appropriate tools to put the spilled solid in a convenient waste disposal container.
Large Spill	Poisonous solid. Stop leak if without risk. Do not get water inside container. Do not touch spilled material. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Eliminate all ignition sources. Call for assistance on disposal.

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. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Keep away from incompatibles such as oxidizing agents, acids, alkalis.
Storage	Keep container tightly closed. Keep container in a cool, well-ventilated area. Sensitive to light. Store in light-resistant containers.

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	Not available.
Molecular Weight	728.8 g/mole	Taste	Not available.
pH (1% soln/water)	Not available.	Color	White.
Boiling Point	Not available.		
Melting Point	260°C (500°F)		
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.	Not available.		
Ionicity (in Water)	Not available.		
Dispersion Properties	Not available.		
Solubility	Sparingly soluble in cold water. Sparingly soluble in dehydrated alcohol. Practically insoluble in ethyl acetate.		

Section 10. Stability and Reactivity Data

Stability	The product is stable.
Instability Temperature	Not available.
Conditions of Instability	Excess heat, incompatible materials, dust generation, light
Incompatibility with various substances	Reactive with oxidizing agents, acids, alkalis.
Corrosivity	Not available.
Special Remarks on Reactivity	Sensitive to light.
Special Remarks on Corrosivity	Not available.
Polymerization	Will not occur.

Section 11. Toxicological Information

Routes of Entry	Inhalation. Ingestion.
Toxicity to Animals	LD50: Not available. LC50: Not available.
Chronic Effects on Humans	MUTAGENIC EFFECTS: Mutagenic for mammalian somatic cells. May cause damage to the following organs: heart, cardiovascular system.
Other Toxic Effects on Humans	Very hazardous in case of ingestion. Hazardous in case of inhalation. Slightly hazardous in case of skin contact (irritant).
Special Remarks on Toxicity to Animals	The estimated lethal dose in humans is 10 to 20 mg for a 70 kg (150-pound) person (EPA, 1985). No actual oral LD50 information for humans or rats has been found.
Special Remarks on Chronic Effects on Humans	May affect genetic material (mutagenic)
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. May cause methemoglobinemia, cyanosis (bluish discoloration of the skin due to deficient oxygenation of blood), blood changes, convulsions, cardiac abnormalities, tachycardia, dyspnea, (difficult breathing), Central Nervous System (CNS) nervous system effects and death. Ingestion: Toxic. Harmful if swallowed. Causes nausea, vomiting, anorexia. May cause fluid-electrolyte imbalance elevation in serum potassium levels(hyperkalemia), metabolic alkalosis. Can cause Central Nervous System (CNS).nervous system effects (depression, headache, weakness, paresthesias, confusion, emotional instability, confusion, memory loss, hallucinations, somnolence, disorientation delirium, seizures, drowsiness), blood abnormalities (thrombocytopenia, agranulocytosis, aplastic anemia), cardiac effects (heart blocks, sinus bradycardia, nodal tachycardia, atrial tachycardia, arrhythmias, hypotension), convulsions, shock, and death due to cardiovascular collapse. May cause liver and kidney damage. May cause methemoglobinemia, cyanosis (bluish discoloration of the skin due to deficient oxygenation of blood). Chronic Potential Health Effects: Chronic exposure to low levels of Ouabain may result in cumulative toxicity because of its long half-life. Chronic exposure appears to result in signs and symptoms similar to, but more pronounced than, those found with acute exposure. Nausea, vomiting, and weight loss can occur. Neuropsychiatric (behavioral/central nervous system) effects of chronic exposure include headache, fatigue, irritability malaise, lassitude, lethargy, sudden personality changes, confusion, paranoia, hallucinations, psychosis. Allergic reactions have occasionally been reported. Oubain is a cardiac glycoside. Chronic exposure to cardiac glycoside compounds may also cause visual disturbances.


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 6.1: Poisonous material.
Identification	: Alkaloid, solid, n.o.s(Ouabain) UNNA: 1544 PG: III
Special Provisions for Transport	Not available.
DOT (Pictograms)	

Section 15. Other Regulatory Information and Pictograms

Federal and State Regulations	<p>Illinois chemical safety act: Listed as Ouabain (CAS no. 630-60-4) New York release reporting list: Listed as Ouabain (CAS no. 630-60-4) Pennsylvania RTK: Listed as Ouabain (CAS no. 630-60-4) Massachusetts RTK: Listed as Ouabain (CAS no. 630-60-4) Massachusetts spill list: Listed as Ouabain (CAS no. 630-60-4) New Jersey: Listed as Ouabain (CAS no. 630-60-4) New Jersey spill list: Ouabain (CAS no. 630-60-4) Louisiana RTK reporting list: Liste as Ouabain (CAS no. 630-60-4) SARA 302/304/311/312 extremely hazardous substances: Ouabain CERCLA: Hazardous substances.: Ouabain: 100 lbs. (45.36 kg) TSCA 8(b) Inventory: Ouabain, octahydrate (CAS no. 11018-89-6) is not listed in TSCA 8(b) inventory since it is a hydrate. However Ouabain, anhydrous (CAS no. 630-60-4) is listed on TSCA 8(b) Inventory.</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: 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.</p>
Other Regulations	<p>OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200). Ouabain, octahydrate (CAS no. 11018-89-6) is not listed on the European EINECS Inventory or any other international inventory or list. Ouabain (CAS no. 630-60-4) is listed on the following: European EINECS Inventory (EINECS no. 211-139-3) Canada: Non-domestic Substance List(NDSL) China: National Inventory</p>
Other Classifications	WHMIS (Canada) CLASS D-1B: Material causing immediate and serious toxic effects (TOXIC).

DSCL (EEC)

R23/25- Toxic by inhalation and if swallowed.
R33- Danger of cumulative effects.

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	2
Fire Hazard	1
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.



Safety glasses.

Section 16. Other Information**MSDS Code** O0062**References** Not available.**Other Special Considerations** Use: Cardiac drug. It is a cardiac glycoside.

Validated by Sonia Owen on 8/11/2006.

Verified by Sonia Owen.

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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.