MATERIAL SAFETY DATA SHEET

ALDON CORPORATION
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MSDS No. TT 90
Effective Date May 21, 1999

SECTION I NAME

24 HOUR EMERGENCY ASSISTANCE

CHEMTREC
800-424-9300
Day 716-226-6177

Product	THIAMINE HYDROCHLORIDE
Chemical Synonyms	Vitamin B_1 Hydrochloride
Formula	$C_{12}H_{17}ClN_4OS \cdot HCl$
Unit Size	up to 500 grams
C.A.S. No.	67-03-8

NFPA HAZARD RATING

Health	0
Fire	1
Reactivity	0

HMIS *

LEAST	SLIGHT	MODERATE	HIGH	EXTREME
0	1	2	3	4

SECTION II INGREDIENTS OF MIXTURES

Principal Component(s)	%	TLV Units
Thiamine Hydrochloride	100%	None established.
CAUTION! FOR LABORATORY USE ONLY. NOT FOR		
FOOD OR DRUG USE. DO NOT TAKE INTERNALLY.		

SECTION III PHYSICAL DATA

Melting Point (°F)	248°C (478.4°F) dec.	Specific Gravity (H_2O = 1)	None listed.
Boiling Point (°F)	Decomposes.	Percent Volatile by Volume (%)	Non-volatile.
Vapor Pressure (mm Hg)	Not applicable.	Evaporation Rate (NA =1)	Not applicable.
Vapor Density (Air=1)	No data available.		
Solubility in Water	1 gram dissolves in about 1 mL. water.		
Appearance & Odor	White crystalline powder; slight thiazole odor.		

SECTION IV FIRE AND EXPLOSION HAZARD DATA

			Lower	Upper
Flash Point (Method Used)	Not applicable.	Flammable Limits in Air % by Volume N/A		
Extinguisher Media	Water spray; carbon dioxide (CO_2); dry chemical.			

SPECIAL FIREFIGHTING PROCEDURES

In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

UNUSUAL FIRE AND EXPLOSION HAZARDS

Fire or excessive heat may produce hazardous decomposition products; can react with oxidizing materials.

D.O.T. **NON-REGULATED.**

Approved by U.S. Department of Labor "essentially similar" to form OSHA-20

SECTION V HEALTH HAZARD DATA

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Threshold Limited Value

None established by (ACGIH 1983-84). Mouse, Oral LD50: 8224 mg/kg; Mouse I.P. LD50: 200 mg/kg.

Effects of Overexposure

The primary routes of exposure to this material are eye or skin contact, and inhalation. Contact with powder may result in irritation of the eyes, skin and respiratory tract. Some sensitive individuals may develop dermatitis. Thiamine HCl is a vitamin and is used as a dietary supplement. No adverse effects have been reported at therapeutic levels; however, ingestion of large amounts of thiamine HCl was reported to cause headache, insomnia, and weakness. Symptoms ended after use of the vitamin stopped.

Emergency and First Aid Procedures

EYES: Flush thoroughly with water for 15 minutes, lifting upper and lower eyelids occasionally. If irritation develops or persists, get medical attention. **SKIN:** Flush with water, then wash with mild soap and water. **INGESTION:** If swallowed, if conscious, give one or two glasses of water to drink and call physician. Never give anything by mouth to an unconscious person. **INHALATION:** Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

SECTION VI REACTIVITY DATA

Stability	**Unstable**		**Conditions to Avoid**
	Stable	X	Excessive temperature and heat.
Incompatibility (Materials to Avoid)	Alkalies, alkaline drugs, oxidizing and reducing agents.		
Hazardous Decomposition Products	Thermal decomposition will produce carbon dioxide and/or carbon monoxide, chlorine, oxides of sulfur (SO_x) and nitrogen (NO_x).		

Hazardous Polymerization		Conditions to Avoid
May Occur	**Will Not Occur**	
	X	Not applicable.

SECTION VII SPILL OR LEAK PROCEDURES

Steps to be taken in case material is released or spilled

Avoid making dust. Sweep up and place in a suitable container for disposal. Wash spill area with soap and water.

Waste Disposal Method

Discharge, treatment, or disposal may be subject to Federal, State or Local laws. These disposal guidelines are intended for the disposal of catalog-size quantities only.

Dispose of in an approved incinerator equipped with an afterburner and scrubber or contract with a licensed waste disposal agency.

SECTION VIII SPECIAL PROTECTION INFORMATION

Respiration Protection (Specify Type) None needed in normal laboratory handling. If dusty conditions prevail, work in ventilation hood or wear a NIOSH/MSHA approved dust mask.

Ventilation	**Local Exhaust**	Recommended.	**Special**	No.
	Mechanical (General)	Not required.	**Other**	No.
Protective Gloves	None required.	**Eye Protection**	Chemical safety glasses.	
Other Protective Equipment	Lab coat, eye wash station.			

SECTION IX SPECIAL PRECAUTIONS

Precautions to be Taken in Handling & Storing

Keep container tightly closed when not in use.

Store in a cool, dry place. Keep container tightly closed when not in use. Gloves are usually not necessary, unless open skin is present. Wash thoroughly after handling. Remove and wash contaminated clothing.

Other Precautions

Read label on container before using. Do not wear contact lenses when working with chemicals.

On exposure to air of average humidity, the vitamin absorbs an amount of water corresponding to nearly one mol, forming a hydrate.

For laboratory use only. Not for drug, food or household use. Keep out of reach of children.

Revision	No. 4	Date	5/21/99	Approved	Michael Raszeja	Chemical Safety Coordinator	MR