MATERIAL SAFETY DATA SHEET

WISCONSIN PHARMACAL COMPANY
1 Pharmacal Way
P. O. Box 198
Jackson, WI 53037

Distributed by:
Whitehall Manufacturing
15125 Proctor Ave.
City of Industry, CA 91746
1-800-782-7706

EMERGENCY NUMBER: 1-800-255-3924 (24 HOURS)

INFORMATION NUMBER: 1-800-558-6614 (BUSINESS HOURS)

PRODUCT NAME: Chlorazene

PRODUCT CODE: 400-406 **DATE PREPARED:** 05-23-11

PREPARED BY: J. Nygaard

HMIS: Health Hazard: 3
Fire Hazard: 1
Reactivity: 1
Personal Protective Equipment: G

• EXPOSURE LIMITS/REGULATORY INFORMATION (IN MG/M3) •

Material	CAS#	%	REG. AGCY	PEL	TLV	TWA	STEL	CEIL
Benzenesulfonamide, N-chloro-4-methyl-, Sodium salt	127-65-1	99.0-100.0						
			OSHA	N/D	N/D	N/D	N/D	N/D
			ACGIH	N/D	N/D	N/D	N/D	N/D
			NIOSH	N/D	N/D	N/D	N/D	N/D
			SUPPLIER	N/D	N/D	N/D	N/D	N/D

LEGEND:

EXPOSURE LIMIT DESCRIPTIONS

CEIL	Ceiling Exposure Limit
PEL	Permissible Exposure Limit
STEL	Short term Exposure Limit
TLV	Threshold Limit Value
TWA	Time Weighted Average
N/D	Not determined

• HEALTH HAZARDS •

Acute Inhalation: Inhalation of dust is irritating to mucous membranes and may cause asthmatic symptoms.

Eye Contact: Eye contact may cause moderate to severe irritation and conjunctivitis.

Skin Contact: Powder considered corrosive to the skin. Skin contact may cause allergic reaction in sensitive individuals.

Ingestion: Irritation to the mouth, throat, esophagus and stomach may be caused by ingestion of the material Ingestion is likely to result in nausea and/or vomiting.

Primary Routes of Entry: Inhalation and skin contact are the principal routes of exposure to this product.

Systemic & Other Effects: Formation of HCN-gas as a result of reaction with amino acids (glycine) under acidic conditions (stomach) have been reported.

Medical Conditions Aggravated by Exposure: Persons with pre-existing skin and/or respiratory disease may be at increased risk if exposed to this material.

Chemicals Listed as Carcinogens or Potential Carcinogens: (NTP, IARC or OSHA): None

COMMENTS: Generation of dust should be avoided when handling this product.

EMERGENCY FIRST AID PROCEDURES:

Inhalation: Remove victim to fresh air. If respiratory irritation occurs or if breathing is difficult, get medical attention. If breathing has stopped, give artificial respiration. Maintain airway and administer oxygen if available. Get medical attention immediately.

Skin: Immediately remove contaminated clothing and shoes. Wash skin with soap and plenty of water for at least 15 minutes. Do not attempt to neutralize with chemical agents. Get medical attention. Wash contaminated clothing before reuse. Thoroughly clean or destroy contaminated shoes.

Eyes: Flush eyes with large quantities of running water for a minimum of 15 minutes. If the victim is wearing contact lenses, remove them. Hold the eyelids apart during the flushing to ensure rinsing of the entire surface of the eye and lids with water. DO NOT let victim rub eye(s). Do not attempt to neutralize with chemical agents. Oils or ointments should not be used at this time. Get medical attention if eye irritation occurs.

Oral: Immediately give several glasses of water. DO NOT induce vomiting. If vomiting occurs keep head below hips to reduce risk of aspiration. Give fluids again. Activated charcoal may be administered (not during vomiting, if any) preferably by a physician. Never give anything by mouth to a person who is unconscious or convulsing.

If victim is unconscious, monitor pulse, breathing and airway. If breathing stops, begin artificial respiration immediately. If the heart has stopped, give cardiopulmonary resuscitation (CPR). Get medical attention immediately.

Medical Conditions Aggravated: Persons with pre-existing skin and/or respiratory disease may be at increased risk of exposed to this material.

Note to Physician: To prepare activated charcoal slurry, suspend 50 g activated charcoal in 400 ml water in a plastic bottle and shake well. Administer 5 ml/kg or 350 ml for an average adult.

Attending physician should treat exposed patients symptomatically.

It has been suggested that this product can react with some amino acids in the gastrointestinal tract to form cyanogen compounds. Exposure to this product may result in cyanide poisoning. If cyanide poisoning is suspected, amyl nitrate, sodium nitrate and sodium thiosulfate may be used for treatment, along with oxygen.

• PHYSICAL/CHEMICAL CHARACTERISTICS •

VAPOR PRESSURE: N/D

SPECIFIC GRAVITY: N/D

EVAPORATION RATE: N/D

SOLUBILITY IN WATER: 150 g/L @ 25°C

BULK DENSITY: 590 kg/m^3

SOLUBILITY IN OTHER SOLVENTS: 75 g/L @ 25°C in 95% Ethanol

pH: 9 (5% solution)

DENSITY: 1430 kg/m^3

FLASHPOINT: 377.60°F 192.0°C (Pensky-Martons Closed Cup)

APPEARANCE AND ODOR: White crystalline powder, odor of weak chlorine.

• REACTIVITY DATA •

STABILITY: This product may decompose if exposed to elevated temperatures. It will become unstable in humid conditions.

INCOMPATIBILITY (Material to Avoid): This product is an oxidizer. This product is incompatible with acids and strong oxidizers.

HAZARDOUS POLYMERIZATION: Will not occur under normal temperatures and pressures.

HAZARDOUS DECOMPOSITION: Decomposes at temperatures above 266°F (130°C) to release toxic hydrogen chloride, chlorine and sulfur, and nitrogen oxides.

CONDITIONS TO AVOID: Contact with acids and strong oxidizers and prolonged storage at elevated temperatures should be avoided.

• FIRE AND EXPLOSION HAZARDS •

FLASH POINTS: In powder form 377.60°F(192°C) (Closed cup)

AUTOIGNITION: N/D

FLAMMABILITY LIMITS IN AIR, % BY VOL.: N/D

EXTINGUISHING MEDIA: Use water, CO_2, dry powder, fog or foam extinguishing agents.

FIRE OR EXPLOSION HAZARDS: Potential for dust explosion may exist. This product is not defined as flammable or combustible. May decompose violently if heated above 266°F(130°C). This product will begin to loose water of crystallization at 122°F(60°C). Depending upon conditions, dusts may be sensitive to static discharge. Avoid possibility of dry powder with friction causing static electricity in presence of flammables. (See NFPA-77, Chapter 6).

HAZARDOUS PRODUCTS/COMBUSTIONS: Oxides of sulfur and nitrogen, hydrogen chloride and chlorine may be produced by the decomposition of this product.

UNUSUAL FIRE OR EXPLOSION HAZARDS: Has been reported as being explosive after azeotropic distillation of the total water content. Do not incinerate-HCL formation.

SPECIAL FIRE FIGHTING PROCEDURES: As in any fire, prevent human exposure to fire, smoke, fumes or products of combustion. Evacuate non-essential personnel from the fire area. Firefighters should wear full-face, self-contained breathing apparatus and impervious protective clothing. If not leaking, keep fire exposed containers cool with a water spray to prevent rupture due to excessive heat.

• PRECAUTIONS FOR SAFE HANDLING AND USE •

SPILL RESPONSE: Stop source of spill. Sweep up spilled solid material, being careful not to create dust. Return sweepings to stock or if contaminated, place into chemical waste container for disposal.

WASTE DISPOSAL AND PRECAUTIONS: In accordance to local, state and federal regulations.

HANDLING PRECAUTIONS: Avoid prolonged and/or repeated skin contact and eye contact when handling this product.

STORAGE PRECAUTIONS: Store away from foodstuffs or animal feed. Containers should be kept tightly capped and stored in a cool, dry, well ventilated area away from flammable or oxidizing materials and sources of heat or flame. Exercise due caution to prevent damage to or leakage from the container.

MAXIMUM STORAGE TEMPERATURE: 140°F (60°C) looses crystalline structure.

OTHER PRECAUTIONS: Do not incinerate. The generation of dust should be avoided when handling this product.

• CONTROL MEASURES •

RESPIRATORY PROTECTION: If handling operations lead to dusting, wear a NIOSH-approved half mask, acid gas, air purifying respirator with dust, mist and fume filters. When using respirator cartridges or canisters, they must be changed frequently (following each use or at the end of the workshift) to assure breakthrough exposure does not occur.

VENTILATION: Use in well-ventilated area. Prevent the circulation or accumulation of dust in the air with sufficient ventilation.

EYE PROTECTION: Dust tight goggles are recommended when handling loose powder.

SKIN PROTECTION: Skin contact with this product should be prevented through the use of suitable protective clothing, gloves, and footwear selected with regard for use condition exposure potential.

OTHER PROTECTION: Safety showers, with quick opening valves which stay open, and eye wash fountains, or other means of washing the eyes with a gentle flow of cool to tepid tap water, should be readily available in all areas where this material is handled or stored. Water should be supplied through insulated and heat-traced lines to prevent freeze-ups in cold weather. Long sleeve clothing may be used to minimize skin contact.

APPLICABLE EXPOSURE LIMITS: In addition to any exposure limits displayed in this section, exposures to this product should be controlled below limits established for "Particulates Not Otherwise Classified (PNOC):

10 mg/m3-ACGIH

15 MG/M3- (total dust); 5 mg/m3 (respirable fraction)-OSHA

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COMMENTS: Remove protective clothing after working with Chlorazene. Wash with soap and water, rinse well.

• TOXICOLOGICAL INFORMATION •

TOXICOLOGICAL- INHALATION : Inhalation toxicity data are not available for this product.

INHALATION CHRONIC EXPOSURE: Prolonged and/or repeated inhalation may cause respiratory irritation, cough, and chest discomfort.

TOXICOLOGICAL- DERMAL: The acute dermal LD50 is greater than 2000 mg/kg in rabbits (8% solution). This product was corrosive to rabbit skin.

SKIN CONTACT- CHRONIC: Prolonged or repeated skin contact may cause dermatitis and irritation. Sensitive individuals may have allergic reactions.

TOXICOLOGICAL- EYE: This product is a moderate irritant to rabbit eyes.

TOXICOLOGICAL- INGESTION: The oral LD50 for this material is approximately 1000 mg/kg in rates and mice. In a 90 day feeding study, the NOEL (No Observed Effect Level) in Albino rats was 15 mg/kg.

INGESTION - CHRONIC: Chronic ingestion effects of this product are not known.

REPRODUCTIVE EFFECTS: The reproductive toxicity of this product is not known.

NEUROTOXICITY: The neurotoxic effects of this product are not known.

OTHER TOXICOLOGICAL EFFECTS: No other toxic effects for this product are known.

TARGET ORGANS: Overexposure to this product may affect the skin, eyes and respiratory system. Dermal Sensitization may occur.

• ECOLOGICAL INFORMATION •

ECOTOXICOLOGICAL INFORMATION: This product is readily biodegradable if it is in sufficiently low concentrations in water. The hydrolysis product is also readily biodegradable. Experiments on this product yielded the following environmental data:

The 96 hr LC50 is 35 mg/L for Guppy

The 48 hr EC50 is 4.5 mg/L for Daphnia magna.

The 72 hr EC50 is 80 mg/L for Algae.

The 21 day No Effect Level (NOEL), is 1.1 mg/L for Daphnia magna.

DISTRIBUTION: Other ecological information on this product is not known.

CHEMICAL FATE: This product hydrolyzes to p-toluene sulphonamide.

• DISPOSAL CONSIDERATIONS •

WATER DISPOSAL: In its unused condition, this product is not considered to be a RCRA defined hazardous waste by characteristics or listings. It is the responsibility of the waste generator to evaluate whether his wastes are hazardous by characteristic or listing. Dispose in accordance with all local, state and federal regulations.

CONTAINER DISPOSAL: Containers should be cleaned of residual product before disposal or return. Empty containers should be disposed of or shipped in accordance with all applicable laws and regulations.

• TRANSPORT INFORMATION •

49 CFR Part 173.154 Exceptions for Class 8 (corrosive material)

Limited quantities (by ground): Inner package not over 11 lbs., gross package weight less than 66 lbs.

Proper Shipping Name: Consumer Commodity

Primary Hazard Class/Division: ORM-D

SHIPPING DESCRIPTION: Corrosive solids, basic, organic, n.o.s.

(Sodium P-tolunesulphonchloramide)

ID NO: UN3263

HAZARD CLASS: 8

PACKING GROUP: III

LABEL: Corrosive

ENVIRONMENT HAZARDOUS SUBSTANCE: This product does not contain an environmentally hazardous substance.

• REGULATORY INFORMATION •

COMPONENT: Benzenesulfonzmide, N-chloro-4-methyl-,sodium salt is subject to

Environmental List

DSL	Domestic Substance List – Canada
TSCA	Toxic Subst. Cont. Act – listed

OTHER REGULATORY INFORMATION: No other regulatory information is available on this product.

NOTE: This data represents typical values, not product specifications. No guarantee of accuracy or completeness is made. No responsibility is assumed for any kind of loss or damages arising from use of this data. Information within this MSDS has been taken from Akzo Nobel Chemicals MSDS sheet for Chloramine T, dated 4/4/96.