



HASA ALGI-BAN

Material Safety Data Sheet

Emergency 24 Hour Telephone: **CHEMTREC 800.424.9300**

Corporate Headquarters: Hasa Inc.
23119 Drayton Street
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SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

1.1	Product Identification:	
1.1.1	Product Name:	Hasa Algi-Ban
1.1.2	CAS # (Chemical Abstracts Service Registry Number):	87-90-1
1.1.3	RTECS (Registry of Toxic Effects of Chemical Substances):	XZ1925000
1.1.4	EINECS (European Inventory of Existing Commercial Substances):	201-782-8
1.1.5	Chemical Name:	Trichloroisocyanuric Acid
1.1.6	Chemical Formula:	$C_3Cl_3N_3O_3$
1.1.7	Synonym:	Trichloro-s-triazinetriene; Trichlor, 1,3,5-trichloro-s-triazine-2,4,6-trione; Symclosene.
1.1.8	Chemical Family:	Halogenated Triazines.
1.2	Recommended Uses:	Sanitizing agent for pool and spa water.
1.3	Company Identification:	Hasa Inc. 23119 Drayton Street Saugus, California 91350
1.4	Emergency Telephone:	CHEMTREC: 1-800-424-9300 (24 hour)
1.5	Non-Emergency Assistance:	661-259-5848 (8 AM – 5 PM PST / PDT)

SECTION 2: EMERGENCY OVERVIEW and HAZARD IDENTIFICATION

2.1	Emergency Overview	Danger! Strong oxidizer. Contact with combustibles may cause fire. Contact with acids may liberate hazardous gases. Toxic to aquatic organisms. Hygroscopic. Absorbs water from atmosphere. Do not take internally. Avoid contact with eyes, skin and clothing. Upon contact with skin or eyes, wash off with water. Avoid breathing dust. Store in a clean, cool, dry well –ventilated area. Do not store at temperatures above 60°C (140°F). This pesticide is toxic to fish and aquatic organisms.
2.2	Acute Health Effects	
2.2.1	Eyes	Severe irritation and/or burns can occur following eye exposure. Contact may cause impairment of vision and corneal damage.
2.2.2	Skin	Dermal exposure can cause severe irritation and /or burns characterized by redness, swelling and scab formation. Repeated skin exposure may cause tissue destruction due to the corrosive nature of the product.
2.2.3	Inhalation	This material in the form as sold is not expected to produce respiratory effects. Particles of respirable size are generally not encountered. The respirable fraction is typically less than 0.1% by weight for the granular and extra granular grades. If ground or otherwise in a powdered form, effects similar to a corrosive substance may occur. May cause severe irritation of the respiratory tract with coughing, choking, pain and possibly burns of the mucous membranes. If significant or prolonged exposure occurs, pulmonary edema may develop, either immediately or more often within a period of 5-72 hours. The symptoms may include tightness in the chest, dyspnea, sputum, cyanosis, and dizziness. Physical findings may include moist rales, low blood pressure and high pulse pressure. Severe causes may be fatal.
2.2.4	Ingestion	Irritation and/or burns can occur to the entire gastrointestinal tract, including the stomach and intestines, characterized by nausea, vomiting, diarrhea, abdominal pain, bleeding and/or tissue ulceration. Ingestion causes severe damage to the gastrointestinal tract with the potential to cause perforation.
2.2.5	Medical Conditions Aggravated By Exposure:	Asthma, respiratory and cardiovascular disease.
2.3	Chronic Health Effects	May cause liver and kidney damage. Prolonged exposure may cause damage to the respiratory system. Chronic inhalation exposure may cause impairment of lung function and permanent lung damage.

SECTION 3: COMPOSITION INFORMATION ON INGREDIENTS

	Ingredient	CAS No.	Approx. Wt.%
3.1	Trichloroisocyanuric Acid	89-90-1	96.0 - 100.0%
3.2	Dichloroisocyanuric Acid	2893-78-9	0.4%

SECTION 4: FIRST AID MEASURES

4.1.	IF IN EYES	<ul style="list-style-type: none"> Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.
4.2.	IF ON SKIN OR CLOTHING	<ul style="list-style-type: none"> Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.
4.3.	IF INHALED	<ul style="list-style-type: none"> Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.
4.4.	IF SWALLOWED	<ul style="list-style-type: none"> Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person.

HOT LINE NUMBER

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-424-9300 for emergency medical treatment information.

NOTE TO PHYSICIAN

Probable mucosal damage may contraindicate the use of gastric lavage.

SECTION 5: FIRE FIGHTING MEASURES

5.1	Extinguishing Media:	Use water spray, dry chemical, carbon dioxide or chemical foam. Contact professional fire fighters immediately. Do not use fire extinguishers containing ammonium compounds or carbon tetrachloride.
5.2	Fire/Explosion Hazards:	Negligible fire hazard. If heated by outside sources above 240°C (464°F) this product will undergo decomposition with the evolution of noxious gases but no visible flame. Wet materials may generate nitrogen trichloride and explosion hazard.
5.3	Fire Fighting Procedures:	Wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH approved (or equivalent), and full protective gear. Strong oxidizer. Contact with combustible materials may cause a fire. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Use water with caution and in flooding amounts. Contact with acid or acid fumes evolves heat and flammable vapors. Some oxidizers may react explosively with hydrocarbons (fuel). May accelerate burning if involved in a fire. Containers may explode when heated. Extinguishing media: Contact professional fire-fighters immediately. For small fires DO NOT use dry chemicals, carbon dioxide, halon or foams. USE WATER ONLY. For large fires flood fire with water from a distance.
5.4	Flammable Limits:	No information available
5.5	Products of Combustion:	When heated to decomposition it emits very toxic fumes of chlorine and nitrogen oxides.
5.6	Fire Hazards in Presence of Various Substances:	Do not mix with other chemicals. Keep combustibles away from this product.
5.7	Sensitivity to Impact or Static Discharge:	Not sensitive.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Use proper personal protective equipment. (See section 8 below). Vacuum or sweep up material and use beneficially or place in a suitable disposal container. Avoid generating dusty conditions. Provide ventilation. Do not use combustible materials such as paper towels to clean up spill. Keep combustibles, wood, paper, oil, sweeping compounds away from spilled material. Do not let chemical enter environment. If material has been contaminated, fill disposal container with water. Do not seal container. Do not add water to spilled materials. Do not store or transport wet materials, call HASA for additional information and advice.

SECTION 7: HANDLING AND STORAGE

7.1	Handling:	Danger! Corrosive! Causes irreversible eye damage. Harmful if swallowed or absorbed through skin. Do not get on skin, in eyes or on clothing. Wear safety glasses goggles, or face shield, protective clothing, and rubber gloves when handling this product. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove and wash contaminated clothing before reuse. Irritating to nose and throat. Avoid breathing dust.
7.2	Storage:	Keep this product dry in a tightly closed container, when not in use. Store in a cool, dry well-ventilated area away from heat and open flames. In case of contamination or decomposition do not reseal container, If possible, isolate container in open air or well-ventilated area and flood with large quantities of water, if necessary. Do not contaminate water, food, or feed by storage, disposal, or cleaning of equipment.
7.3	Additional Information:	Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility. For product that cannot be used, call your local solid waste agency for disposal instructions. Never place unused product down any indoor or outdoor drain.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1	Engineering Controls:	Local exhaust ventilation.
8.2	Personal Protection:	
	8.2.1 Eyes and Face:	Wear chemical safety goggles plus full face shield to protect against splashing when appropriate.
	8.2.2 Skin:	Wear impervious gloves such as rubber, neoprene or vinyl.
	8.2.3 Respiratory:	NIOSH/MSHA approved respirator. Manufacturer's recommendations should be followed as a precautionary measure where airborne contaminants may occur.
	8.2.4 Clothing:	Wear impervious protective clothing including rubber safety shoes. Eye wash facility and emergency shower should be in close proximity.
8.3	Additional Information:	No additional information found

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1	Physical State and Appearance:	White granules.
9.2	Odor:	Slight odor of chlorine.
9.3	Odor Threshold:	Not reported.
9.4	Molecular Weight:	232.4 g/mole
9.5	Boiling Point:	Not applicable
9.6	Melting Point:	246.7°C (decomposes)
9.7	Solubility in Water:	12g/L @ 25°C
9.8	pH:	2.7 to 3.3 (1% aqueous solution)
9.9	Bulk Density:	1.16-1.9 g/cc
9.10	Vapor Density:	Not applicable.
9.11	Vapor Pressure:	Very small, impossible to measure.
9.12	Evaporation Rate:	Not applicable.
9.13	Flash point:	> 250°C (482°F) open cup.
9.14	Flammability:	Not applicable.
9.15	Flammable Limits:	Not applicable.
9.16	Percent Volatile:	Not applicable.
9.17	Auto Ignition Temperature:	Not applicable.
9.18	Coefficient of Oil/Water Distribution:	Not applicable.

SECTION 10: STABILITY AND REACTIVITY

10.1	Stability:	Hygroscopic. Absorbs water from atmosphere. Thermally unstable.
10.2	Conditions to Avoid:	Do not package in paper or cardboard. Note: Contact with small amounts of water may result in an exothermic reaction with the liberation to toxic fumes.
10.3	Polymerization:	Will not occur.
10.4	Incompatible Materials:	Organic materials, reducing agents, nitrogen containing materials, other oxidizers, acids, bases, oils, grease, sawdust, dry fire extinguishers containing monoammonium compounds.
10.5	Hazardous Decomposition Products:	Nitrogen trichloride, chlorine, nitrous oxides, cyanates, carbon monoxide, carbon dioxide.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1	Routes of Entry:		Eyes, skin, ingestion, dermal absorption.
11.2	Acute Toxicity: (animals)		EPA RED (Reregistration Eligibility Document)* Toxicity Category
	11.2.1	Eye Irritation* (rabbit):	Very irritating I
	11.2.2	Dermal Irritation* (rabbit):	Mild irritation. III
	11.2.3	Dermal* LD₅₀ (rabbit):	>10 g/kg III
	11.2.4	Oral* LD₅₀ (rat):	1500 mg/kg III
	11.2.5	Inhalation LC₅₀ (rat):	0.09-0.29 mg/L 4 hours
11.3	Target Organs:		Kidneys, liver, respiratory systems, eyes, skin.
11.4	Acute Effects from Overexposure:		No information found.
11.5	Chronic Effects from Overexposure:		Prolonged exposure may cause damage to the respiratory system. Chronic inhalation exposure may cause impairment of lung function and permanent lung damage.
11.6	Carcinogenic [Cancer Potential] Information:		
	11.6.1	NTP (National Toxicological Program 6 th Annual Report on Carcinogens):	Not Listed.
	11.6.2	IARC (International Agency for Research on Cancer Monographs, V. 1-100):	Not Listed.
	11.6.3	OSHA:	Not Listed.
	11.6.4	Proposition 65, California only: (Safe Drinking Water and Toxic Enforcement Act of 1986): Small quantities – less than 100 ppm (parts per million) – of impurities, including bromates, may be found in all chlorinating products, including this product. Bromates are derived from bromides, which are present in sodium chloride (table salt) from which chlorine is manufactured. Additional small quantities of bromates may be generated during the disinfection process. Bromates are known by the State of California to cause cancer when administered by the oral (drinking or ingesting) route. Read and follow label directions and use care when handling or using this product. The US Environmental Protection Agency has established a maximum contaminant level (MCL) for bromates in drinking water at 10 ppb (parts per billion). Application of this product in accordance with label directions at use dilution will not exceed this level. This warning is provided pursuant to Proposition 65, the Safe Drinking Water and Toxic Enforcement act of 1986, Chapter 6.6 of the California Health and Safety Code, which requires the Governor of California to publish a list of chemicals “known to the state to cause cancer or reproductive toxicity.” This list is compiled in accordance with the procedures established under the proposition, and can be obtained on the internet from California’s Office of Environmental Health Hazard Assessment at http://www.oehha.ca.gov .	

SECTION 12: ECOLOGICAL INFORMATION

12.1	Ecotoxicological Information:	This product is toxic to fish and aquatic organisms. Do not contaminate water by cleaning of equipment or disposal of wastes. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance, contact your State Water board or Regional Office of the EPA.
12.2	Aquatic Organisms:	
12.2.1	Fish (LC₅₀)	0.23-0.40 mg/L blue gill sunfish (96 hour) 0.24-0.37 mg/L rainbow trout (96 hour)
12.2.2	Invertebrate (LC₅₀)	0.19 mg/L daphnia magna (48 hour).
12.2.3	Marine Organism (LC₅₀)	0.09 mg/L shrimp (96 hour)
12.2.4	Avian (LD₅₀)	1890 mg/kg mallard duck (oral) 1674 mg/kg Bobwhite Quail (oral)
12.3	Chemical Fate:	No information found



SECTION 13: DISPOSAL CONSIDERATIONS

13.1	Small Spill:	Sweep up and use in pool or spa, if possible. DO NOT add water to spilled materials. DO NOT use floor sweeping compounds to clean up spills. Sweep and scoop spilled material into clean, Dedicated equipment. Every attempt should be made to avoid mixing spilled material with other chemicals or debris when cleaning up. DO NOT attempt to reseal contaminated drums. DO NOT transport wet or damp material. Damp material should be neutralized to a non-oxidizing state. Contact HASA for instructions for handling and disposal of damp material. Keep out of water supplies and sewers.
13.2	Large Spill:	Keep unnecessary people away, isolate hazard area and deny entry. DO NOT add water to spilled materials. DO NOT use floor sweeping compounds to clean up spills. Sweep and scoop spilled material into clean, dedicated equipment. Every attempt should be made to avoid mixing spilled materials with other chemicals or debris when cleaning up. DO NOT attempt to reseal contaminated drums. DO NOT transport wet or damp material. Damp material should be neutralized to a non-oxidizing state. Contact HASA for instructions for handling and disposal of damp material. Keep out of water supplies and sewers. Releases should be reported, if required, to appropriate agencies.
13.3	Personal Protection:	See section 8, Exposure Controls and Personal Protection.

SECTION 14: TRANSPORT INFORMATION

14.1	US D.O.T.		
		Inside packages up to 2.2 pounds.	Inside or individual packages over 2.2 pounds.
14.1.1	Proper Shipping Name:	Consumer Commodity	Trichloroisocyanuric Acid. Dry
14.1.2	Hazard Class / Division:	ORM-D	5.1
14.1.3	UN ID Number:	Not applicable	UN2468
14.1.4	Labels:	ORM-D	Oxidizer 5.1
14.1.5	Placards:	None required	Oxidizer 5.1
14.1.6	Markings:	None required	Oxidizer 5.1
14.1.7	Packing Group:	None required	II
14.2	<p>“Materials of Trade” Exceptions. Under certain conditions, spa and pool maintenance chemicals may be loaded into pool service and builders trucks and shipped as a MOT, not subject to DOT regulations. A MOT means a hazardous material, other than a hazardous waste, that is carried on a motor vehicle – by a private motor carrier in direct support of his/her principal business that is other than transportation by motor vehicle.</p> <p>To qualify as a MOT, the hazardous material must fit into any one of the following classes or divisions (but not limited to) Oxidizer Materials (Division 5.1) or Consumer Commodities (ORM-D).</p> <p>Quantity Limit for MOT: For Oxidizer Materials (Division 5.1) that belongs to Packing Group II or III, or is a consumer commodity (ORM-D) – the maximum amount of material in each package is 30 kg (66 lbs) for solids, or 30 L (8 gal) for liquids. The aggregate gross weight of all MOTs on a motor vehicle may not exceed 200 kg (440 pounds).</p> <p>Packaging requirement:</p> <ol style="list-style-type: none"> 1. Packagings must be leak tight for liquids and gases, sift proof for solids, and be securely closed, secured against shifting, and protected against damage. 2. Each material must be packaged in the manufacturer's original packaging, or a packaging of equal or greater strength and integrity. 3. Outer packagings are not required for receptacles (e.g., cans and bottles) that are secured against shifting in cages, carts, bins, boxes or compartments. <p>Hazard communication:</p> <ul style="list-style-type: none"> • A non-bulk packaging other than a cylinder (including a receptacle transported without an outer packaging) must be marked with a common name or proper shipping name to identify the material it contains, including the letters “RQ” if it contains a reportable quantity of a hazardous substance. • The operator of a motor vehicle that contains a material of trade must be informed of the presence of the hazardous material (including whether the package contains a reportable quantity) and must be informed of the requirements of 49 CFR §173.6. <p>Other exceptions: A MOT may be transported on a motor vehicle under the provisions of 49 CFR §173.6 (e) with other hazardous materials without affecting its eligibility for these exceptions. The MOTs regulations do not require:</p> <ul style="list-style-type: none"> • shipping papers; • emergency response information; • placarding; or • formal training or retention of training records. 		
14.3	<p>Non “Material of Trade”. Shipments not exempt from DOT HAZMAT requirements as “Materials of Trade” must be handled, loaded, and shipped as “hazardous materials”. Hazardous materials shipments are subject to DOT regulations and require that each employee who handles these materials to be trained and qualified as a “HAZMAT employee” and his employer becomes a “HAZMAT employer”.</p>		
14.4	Canadian TDG (Transportation of Dangerous Goods)		
	14.4.1 Shipping Name:	Trichloroisocyanuric acid, dry	
	14.4.2 UN ID Number:	UN2468	
	14.4.3 Hazard Class:	5.1	
	14.4.4 Packing Group:	II	

SECTION 15: REGULATORY INFORMATION		
15.1	U.S. Regulations:	
15.1.1	OSHA HAZCOM (Hazard Communication)	This material is considered hazardous by the HAZCOM Standard (29 CFR 1910.1200)
15.1.2	OSHA PSM (Process Safety Management)	Not regulated under PSM Standard (29 CFR 1910.119)
15.1.3	EPA FIFRA (Federal Insecticide, Fungicide and Rodenticide Act)	EPA Reg. No. :10897-2 (Registered pesticide under 40 CFR 152.10)
15.1.4	EPA EPCRA (Emergency Planning and Community Right-to-Know Act)	Section 302 – TPQ: not listed. Section 304 - RQ: not listed. Section 313 – not on TRI list.
15.1.5	EPA SARA (Superfund Amendments and Reauthorization Act) Title III	Section 311/312 Acute: Yes Chronic: No Fire: Yes Reactive: Yes Sudden Release: No
15.1.6	EPA TSCA (Toxic Substance Control Act)	All components are listed or exempted. TSCA 12(b): This product is not subject to export notification.
15.1.7	EPA CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act)	102a/103 Not regulated
15.1.8	EPA RMP (Risk Management Plan)	Not listed. (40 CFR 68.130)
15.1.9	EPA RCRA (Resource Conservation and Recovery Act)	If this product becomes a waste, it meets the criteria of a hazardous waste as defined in 40 CFR 261 and would have the EPA hazardous waster number: D001.
15.1.10	FHSA (Federal Hazardous Substances Act)	Complies.
15.2	State of California Regulations:	
15.2.1	CDPR (California Department of Pesticide Regulation)	Reg. No.10897-2-ZA
15.2.2	CalARP (California Accidental Release Prevention Program)	Not listed.
15.3	Canada Regulations:	
15.3.1	WHMIS (Workplace Hazardous Materials Information System) Classification	C - Oxidizing material D1B - Poisonous and infectious material - Immediate and serious effects – Toxic D2B - Poisonous and infectious material - Other effects - Toxic
15.3.2	WHMIS Health Effects Criteria Met by this Chemical	D1B - Acute lethality - toxic – immediate D2B - Skin irritation - toxic – other D2B - Eye irritation - toxic - other
15.3.3	WHMIS Ingredient Disclosure List	Included for disclosure at 1% or greater.
15.3.4	DSL (Domestic Substances List)	All components of this product are on the DSL.

SECTION 16: OTHER INFORMATION			
16.1	HMIS III (Hazardous Materials Identification System):		
	16.1.1	HEALTH	3
	16.1.2	FLAMMABILITY	0
	16.1.3	PHYSICAL HAZARD	2
	16.1.4	PERSONAL PROTECTION	Section 8
16.2	NFPA 704 (National Fire Protection Association):		
	16.2.1	HEALTH	2
	16.2.2	FLAMMABILITY	0
	16.2.3	INSTABILITY	1
	16.2.4	SPECIAL	OX
			
16.3	ANSI (American National Standards Institute):		
	16.3.1	Hazardous Industrial Chemicals - MSDS-Preparation:	Complies with ANSI Z400.1 – 2004.
	16.3.2	Hazardous Industrial Chemicals - Precautionary Labeling:	Complies with ANSI Z129.1 – 2006.
16.4	GHS (Globally Harmonized System):		
	16.4.1	GHS Classification:	Acute Toxicity Inhalation (Category 2) Acute Toxicity Oral (Category 4)
	16.4.2	GHS Symbol:	
	16.4.3	GHS Signal Word:	Danger
	16.4.4	GHS Hazard Statement:	Fatal if inhaled. Harmful if swallowed.

NOTE: The information contained herein, while not guaranteed, was prepared by competent technical personnel and is true and accurate to the best of our knowledge and belief. **NO WARRANTY OR GUARANTEE**, express or implied, is made regarding the product performance, product stability, or as to any other condition of use, handling, transportation, and storage. Customer use, handling, transportation, and storage may involve additional safety and/or performance considerations. Our technical personnel will be happy to respond to questions regarding safe handling, storage, transportation, and use procedures. The safe handling, storage, transportation, and use procedures remain the sole responsibility of the customer. No suggestions for handling, storage, transportation, or use are intended as or to be construed as recommendations which may infringe on any existing patents or violate any Federal, State, and/or local law and/or regulation, ordinance, standard, etc. This Material Data Safety Sheet has been prepared by Hasa, Inc. according to Hazard Communication Guidelines for Compliance (OSHA 3111) published by U.S. Department of Labor, Occupational Safety and Health Administration and Hasa, Inc. can rely on the information received from its suppliers and Hasa Inc. has no independent duty to analyze the chemical or evaluate the hazards of it.