



HASA DRI-SHOCK SHOCKING GRANULES

Material Safety Data Sheet

Emergency 24 Hour Telephone: **CHEMTREC 800.424.9300**

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

1.1	Product Identification:	
1.1.1	Product Name:	HASA Dri-Shock Shocking Granules
1.1.2	CAS #:	7778-54-3
1.1.3	RTECS (Registry of Toxic Effects of Chemical Substances):	NH3485000
1.1.4	EINECS (European Inventory of Existing Commercial Substances):	231-908-7
1.1.5	Chemical Name:	Calcium Hypochlorite
1.1.6	Chemical Formula:	$\text{Ca}(\text{OCl})_2$
1.1.7	Molecular Weight:	143 g/mole
1.1.8	Chemical Family:	Inorganic acid salt
1.1.9	Synonym:	Losantin; hypochlorous acid, calcium salt; BK powder; Hy-Chlor; chlorinated lime; lime chloride; chloride of lime; calcium oxychloride; HTH; mildew remover X-14; perchloron; shock; dry chlorinator; and pittchlor.
1.2	Recommended Uses:	It is widely used for water treatment and as a bleaching agent (bleaching powder).
1.3	Company Identification:	Hasa Inc. 23119 Drayton Street Saugus, California 91350
1.4	Emergency Telephone Number:	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 other material may cause fire. CORROSIVE. Causes burns to any area of contact. HARMFUL IF SWALLOWED OR INHALED. WATER REACTIVE.
2.2	Acute Effects:	
2.2.1	Eyes:	Corrosive. Contact can cause blurred vision, redness, pain, and severe tissue burns.
2.2.2	Inhalation:	Corrosive. Extremely destructive tissues of the mucous membranes and upper respiratory tract. Symptoms may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea and vomiting. Inhalation may be fatal as a result of spasm, inflammation and edema of the larynx and bronchi, chemical pneumonitis and pulmonary edema. Warning: it may be hazardous to the person providing aid to give mouth to mouth resuscitation.
2.2.3	Ingestion:	Corrosive. Swallowing can cause severe burns of the mouth, throat, and stomach. Can cause sore throat, vomiting, and/or diarrhea.
2.2.4	Skin:	Corrosive. Symptoms of redness, pain and severe burn can occur.
2.3	Target Organs:	Lungs, respiratory system, eyes, skin, mucous membranes.
2.4	Chronic Effects:	Repeated exposure to this product may cause bronchitis to develop with cough and/or shortness of breath.

SECTION 3: COMPOSITION INFORMATION ON INGREDIENTS

	Ingredient	CAS No.	Weight %
3.1	Calcium Hypochlorite	7778-54-3	68
3.2	Sodium Chloride	7647-14-5	10-20
3.3	Calcium Chlorate	10137-74-3	0-5
3.4	Calcium Chloride	10043-52-4	0-5
3.5	Calcium Hydroxide	1305-62-0	0-4
3.6	Calcium Carbonate	471-34-1	0-5
3.7	Water	7732-18-5	5.5-10

SECTION 4: FIRST AID MEASURES

4.1	IF IN EYES	• 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	• 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	• 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	• 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	Flammability:	Not combustible.
5.2	Auto-Ignition Temperature:	Not applicable.
5.3	Flash Point:	Not applicable.
5.4	Flammable Limits:	Not applicable.
5.5	Products of Combustion:	Chlorine gas.
5.6	Fire Hazards in Presence of Various Substances:	This product is a strong oxidizer and the heat of reaction with reducing agents or combustibles may cause ignition. Thermally unstable. At higher temperatures may undergo accelerated decomposition with release of heat and oxygen.
5.7	Explosion Hazards:	Single container may rupture when heated. An explosion can occur if either a carbon tetrachloride or a dry ammonium compound (A:B:C) fire extinguisher is used to extinguish a fire involving this product.
5.8	Fire Extinguishing Media:	Use flooding quantities of water, as fog or spray. Use water spray to keep fire exposed containers cool. Avoid direct contact with water. This product reacts with water releasing chlorine gas. Fight fire from maximum distance or from protected location. Do not use dry chemical (A:B:C) fire extinguishers containing carbon tetrachloride. Do not allow water to enter sewers or waterways.
5.9	Sensitivity to Impact:	Sensitive to mechanical impact.
5.10	Sensitivity to Static Discharge:	Not applicable.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Remove all sources of ignition. Keep water away from spilled material. Ventilate area of spill. Wear appropriate personal protective equipment (PPE) as specified in section 8 below. Clean up spills in a manner that does not disperse dust into the air. Use non sparking tools and equipment. If possible use beneficially in pool or spa. Pick up spill and place in a closed container. Do not seal container tightly.

SECTION 7: HANDLING AND STORAGE

7.1	Handling:	Keep in tightly closed container, stored in a cool, dry ventilated area. Protect against physical damage and moisture. Isolated from any source of heat or ignition.
7.2	Storage:	Avoid storage on wood floors. Separate from incompatibles, combustibles, organic or other readily oxidizable materials. Containers of calcium hypochlorite may be hazardous when empty since they retain product residues (dust, solids). Observe all warnings and precautions listed for this product. If possible triple rinse empty container with water and apply directly to pool or spa water.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1	Engineering Controls:	Local exhaust ventilation to maintain levels below STEL (Short Term Exposure Limit) of 1 ppm as chlorine.
8.2	Hygiene Measures:	Smoking should be prohibited in areas in which calcium hypochlorite is stored or handled.
8.3	Dietary Exposure:	Residues of calcium hypochlorite may remain on certain food crops as a result of their disinfectant uses. However, these residues pose no known hazard to human health. Pre-harvest and post-harvest uses of calcium hypochlorite on all agricultural commodities are exempted from the requirement of a tolerance, or legal residue limit, because they pose no known hazard to the public health (40 CFR 180.1054). Calcium hypochlorite may be used as a final sanitizing rinse on food processing equipment (21 CFR 178.1010).
8.4	Personal Protection:	
8.4.1	Eye:	If dust is present use a half face dust/mist respirator. For emergencies or instances where the exposure levels are unknown, use a full face positive pressure air supplied respirator. WARNING: Air-purifying respirators do not protect employees in oxygen deficient atmospheres.
8.4.2	Skin:	Boots, aprons, or chemical suits should be used when necessary to prevent skin contact.
8.4.3	Respiratory:	Where the potential for exposure to dust exists, use the appropriate regulatory compliant full facepiece air-purifying respirator with acid gas cartridge and particulate prefilter. Carefully read and follow the respirator manufacturer's instructions and information.
8.4.4	Protective Clothing:	Wear impervious protective clothing, including boots, gloves, apron, or coveralls, as appropriate, to prevent skin contact. A safety shower should be provided in the immediate work area.
8.5	Exposure Limits:	
		Calcium Hypochlorite
		Chlorine*

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

8.5.1	ACGIH (American Conference of Governmental Industrial Hygienists) TWA (Time Weighted Average)	Not established	0.5 ppm
8.5.2	ACGIH STEL (Short Term Exposure Limit)	Not established	1 ppm
8.5.3	OSHA PEL (Permissible Exposure Limit)	Not established	0.5 ppm
8.5.4	ACGIH Ceiling	Not established	Not established
8.5.5	NIOSH (National Institute for Occupational Safety & Health) IDLH (Immediate Danger to Life & Health)	Not established	10 ppm
8.5.6	OSHA STEL (Short Term Exposure Limit)	Not established	1 ppm as Cl ₂
8.5.7	NIOSH (15 min. ceiling)	Not established	0.5 ppm
*Chlorine is unlikely to be present as a decomposition product, but may be present in incidents of accidental mixing with other chemicals.			

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1	Physical State:	White crystalline powder
9.2	Odor:	Slight chlorine odor.
9.3	Odor Threshold:	1.4 mg/m ³ (based on odor threshold of chlorine)
9.4	pH (1% solution):	10.4 – 10.8
9.5	Boiling Point:	Not applicable.
9.6	Melting Point:	Decomposes @ 170°C (338°F).
9.7	Freezing Point:	Not applicable.
9.8	Flammable Limits:	Not applicable.
9.9	Vapor Pressure:	Not applicable.
9.10	Vapor Density: (Air=1)	Not applicable.
9.11	Relative Density:	0.8 g/cc @ 20°C
9.12	Solubility in Water:	Approximately 18% @ 25°C.
9.13	Volatility:	Not volatile.

SECTION 10: STABILITY AND REACTIVITY

10.1	Stability:	Product is NFPA class 3 oxidizer which can cause a severe increase in fire intensity. Not pyrophoric. Not an organic peroxide. Not sensitivity to mechanical impact or static discharge. Product rapidly decomposes upon exposure to air. May decompose violently if exposed to heat or direct sunlight. Thermally unstable. Decomposes at 170°C.
10.2	Incompatible Materials:	Reacts with water and acids to release chlorine gas. Forms explosive compounds with ammonia and amines. Incompatible with organic materials, nitrogen compounds, other pool and spa sanitizers, and combustible materials. Extremely corrosive in presence of zinc and aluminum. Corrosive to steel and copper.
10.3	Hazardous Polymerization:	Will not occur.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1	Routes of Entry:	Eyes, skin, ingestion, dermal absorption.
11.2	Acute Toxicity:	
11.2.1	Oral Toxicity (LD₅₀):	850 mg/kg (rat) (EPA Toxicity category III)
11.2.2	Dermal Toxicity (LD₅₀):	>2 g/kg (EPA Toxicity category II)
11.2.3	Inhalation (LC₅₀):	<20 mg/L (EPA Toxicity category III)
11.2.4	Primary Eye Irritation:	Corrosive (EPA Toxicity category I)
11.2.5	Primary Skin Irritation:	Corrosive (EPA Toxicity category I)
11.3	Chronic Effects (Human Risk Assessment):	Based on the toxicity profile and exposure scenarios for calcium hypochlorite, EPA concludes that the risks from chronic and subchronic exposure to low levels of this pesticide is minimal and without consequence to human health.
11.4	EPA Toxicity Labeling:	Toxicity Category I
11.5	Carcinogenic [Cancer Potential] Information:	
11.5.1	NTP (National Toxicological Program 6 th Annual Report on Carcinogens):	Not Listed.
11.5.2	IARC (International Agency for Research on Cancer Monographs, V. 1-100):	Not Listed. (Group 3 substance).
11.5.3	ACGIH (American Conference of Governmental Industrial Hygienists)	Not Listed.
11.5.4	OSHA (Occupational Safety & Health Administration)	Not Listed.
11.5.5	Safe Drinking Water and Toxic Enforcement Act of 1986 [California Prop 65]: 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, 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	Environmental Fate:	In fresh water, calcium hypochlorite breaks down rapidly into non-toxic compounds when exposed to sunlight. In seawater, chlorine levels decline rapidly; however, hypobromite (which is acutely toxic to aquatic organisms) is formed. EPA believes that the risk of acute exposure to aquatic organisms is sufficiently mitigated by precautionary labeling and National Pollutant Discharge Elimination System (NPDES) permit requirements.
12.2	Ecotoxicity:	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.
12.3	Aquatic Toxicity:	
	12.3.1 Fish (LC ₅₀)	0.44 - 0.79 mg/L blue gill sunfish 0.18 - 0.22 mg/L rainbow trout
	12.3.2 Invertebrate (LC ₅₀)	0.033 – 0.048 mg/L daphnia magna
	12.3.3 Avian (LC ₅₀)	>5220 ppm mallard duck (dietary) >5620 ppm Bobwhite Quail (dietary)
	12.3.4 Avian (LD ₅₀)	>2510 mg/kg Bobwhite Quail
12.4	Chemical Fate:	No information found.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1	Waste Disposal Notes:	Care must be taken to prevent environmental contamination from the use of the material. The user of the material has the responsibility to dispose of unused material, residues and containers in compliance with all relevant local, state and federal laws and regulations regarding treatment, storage and disposal for hazardous and non hazardous waste.
13.2	Waste Disposal Summary:	If this product becomes a waste, it meets the criteria of a hazardous waste as defined under 40 CFR 261 with a EPA hazardous waste number D001. It will be subject to the Land Disposal restrictions under 40 CFR 268 and must be managed according.
13.3	Waste Disposal Method:	As a hazardous solid waste, it should be disposed of in accordance with local, state and federal regulations.
13.4	Potential U.S. EPA Waste Code:	D001

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	Calcium Hypochlorite, hydrated
14.1.2	Hazard Class:	ORM-D	5.1
14.1.3	UN ID Number:	Not applicable	UN2880
14.1.4	Labels:	ORM-D	Oxidizer
14.1.5	Placards:	None required	Oxidizer
14.1.6	Markings:	None required	Oxidizer
14.1.7	Packing Group:	None required	II
14.1.8	Reportable Quantity (RQ):	10 lbs.	10 lbs.
14.2	“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. 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). 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). Packaging requirement: 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. Hazard communication: • 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. 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: • shipping papers; • emergency response information; • placarding; or • formal training or retention of training records.		
14.3	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”.		

SECTION 15: REGULATORY INFORMATION

15.1	U.S. Regulations:	
15.1.1	OSHA HAZCOM (Hazard Communication)	This material is considered hazardous under 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. :10897-20005 (Registered pesticide under 40 CFR 152.10)
15.1.4	EPA TSCA (Toxic Substance Control Act)	All components are listed or exempted.
15.1.5	EPA CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act)	Reportable Quantity (RQ): 10 lbs.
15.1.6	SARA TITLE III:	SARA (302): No TPQ listed. SARA (311, 312): Hazard Class: Acute Health Hazard. Fire Hazard. SARA (313) Chemicals: Not listed. SARA Extremely Hazardous Substance: Not listed.
15.1.7	EPA RMP (Risk Management Plan)	Not listed. (40 CFR 68.130)
15.2	State of California Regulations:	
15.2.1	CDPR (California Department of Pesticide Regulation)	Registration No: 10897-20005-ZC
15.2.2	CalARP (California Accidental Release Prevention Program)	Not regulated.
15.3	Canada Regulations:	
15.3.1	WHMIS (Workplace Hazardous Materials Information System)	- Classification: C (Oxidizing Material) & E (Corrosive Materials) - Health Effects Criteria Met by this Chemical: E (Corrosive to Skin) - Ingredient Disclosure List: Not included. Meets criteria for disclosure at 1% or greater.
15.3.2	DSL (Domestic Substances List)	All components of this product are on the DSL.
15.4	International Inventory:	
15.4.1	AICS (Australian Inventory of Chemical Substances)	On inventory or in compliance with inventory.
15.4.2	KECI (Korean Existing Chemicals Inventory)	On inventory or in compliance with inventory.
15.4.3	PICCS (Philippine Inventory of Chemicals and Chemical Substances)	On inventory or in compliance with inventory.
15.4.4	IECSC (Inventory of Existing Chemical Substances in China)	On inventory or in compliance with inventory.
15.4.5	NZIoC (New Zealand Inventory of Chemicals)	On inventory or in compliance with inventory.

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	1
	16.1.4	PERSONAL PROTECTION	See Section 8.
16.2	NFPA 704 (National Fire Protection Association):		
	16.2.1	HEALTH	3
	16.2.2	FLAMMABILITY	0
	16.2.3	INSTABILITY	1
	16.2.4	SPECIAL	OX
			
16.3	International Fire Code / International Building Code:		No information.
16.4	ANSI (American National Standards Institute):		
	16.4.1	Hazardous Industrial Chemicals - MSDS-Preparation:	Complies with ANSI Z400.1 – 2004.
	16.4.2	Hazardous Industrial Chemicals - Precautionary Labeling:	Complies with ANSI Z129.1 – 2006.
16.5	GHS (Globally Harmonized System):		
	16.5.1	Classification:	Acute Toxicity – Oral (Category 4).
	16.5.2	Symbol:	
	16.5.3	Signal Word:	Warning.
	16.5.4	Hazard Statement:	Harmful if swallowed. Maybe harmful in contact with skin. Maybe harmful if inhaled.

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.