



SECTION 1: Identification

Product identifier used on the label:

Product Name: Chamber Brite

Other means of identification:

Trade name: Chamber Brite

Product type: Powder

Recommended use of the chemical and restrictions on use:

Recommended use: Autoclave Cleaner Powder

Recommended restrictions: Uses other than as recommended above.

Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party:

Company Name: LIMAT Chemicals Ltd,
Company Address: Givat Chaim Meuchad, 38930
Israel.

Company Telephone: +972-4-6167730

Company Fax: +972-4-6301304

Company Contact Name: Chief Technologist - Raviv Brown

Company Contact Email: limat@limat.co.il

Emergency phone number: +972-50-7559731

SECTION 2: Hazard(s) identification

UNITED STATES:

Classification of the chemical in accordance with paragraph (d) of §1910.1200:

Physical hazards

No physical hazards known.

Health hazards

Serious eye damage/eye irritation, Category 2A.

Environmental hazards

Not adopted under OSHA paragraph (d) of §1910.1200



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GHS Signal word:

WARNING

GHS Hazard statement(s):

Causes serious eye irritation.

GHS Hazard symbol(s):



GHS Precautionary statement(s):

Prevention:

Wash skin thoroughly after handling.
Wear eye protection/face protection.

Response:

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.

Storage:

No storage precautionary statements required.

Disposal:

No disposal precautionary statements required.

Hazard(s) not otherwise classified (HNOC):

This product contains a component that may cause frostbite.

Percentage of ingredient(s) of unknown acute toxicity:

Not applicable

HMIS (U.S.A):

National Fire Protection Association NFPA (U.S.A.)

Health	2
Fire	1
Reactivity	0
Personal Protection	E





CANADA:

WHMIS 1988 Classification

Class D2B: Toxic Material at $\geq 1\%$ Moderate eye irritant

Classification of the chemical in accordance with Hazardous Products Regulations (WHMIS 2015):

Physical hazards

Not classified as a physical hazard under the Hazardous Products Regulations (WHMIS 2015).

Health hazards

Serious eye damage/eye irritation, Category 2A.

Environmental hazards

Not adopted under the Hazardous Products Regulations (WHMIS 2015).

GHS Signal word:

WARNING.

GHS Hazard statement(s):

Causes serious eye irritation.

GHS Hazard symbol(s):



GHS Precautionary statement(s):

Wash skin thoroughly after handling.

Wear eye protection/face protection.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

If eye irritation persists: Get medical advice/attention.

Physical hazards not otherwise classified (PNOC):

None known.

Health hazard(s) not otherwise classified (HNOC):



None known.

SECTION 3: Composition/information on ingredients

Mixture: This battery is classified as an Article under OSHA Hazard Communication Standard 29CFR 1910.1200 and Hazardous Products Regulations (WHMIS 2015) and is not subject to the requirements for Information in the Supply Chain (Safety Data Sheets and Labels). While batteries may release hazardous substances if damaged, this is not an intended release as defined under these regulations.

Chemical name	CAS#	Concentration (weight %)
Citric Acid	77-92-9	90 – 100%

Note: The balance of the ingredients are not classified as hazardous or are below the concentration limit to be classified as hazardous, under the criteria of the Federal OSHA Hazard Communication Standard 29CFR 1910.1200 and Hazardous Products Regulations (WHMIS 2015)

SECTION 4: First-aid measures

Description of necessary measures, subdivided according to the different routes of exposure, i.e., inhalation, skin and eye contact, and ingestion:

- 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. Cold water may be use. Get medical attention.
- Skin contact:** In case of contact, immediately flush skin with plenty of water. Cover the irritated skin with an emollient. Remove contaminated clothing and shoes. Cold water may be use. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.
- Inhalation:** If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
- Ingestion:** If large quantities of this material are swallowed, call a physician immediately. Do not induce vomiting. Never give anything by mouth to an unconscious person. If victim is conscious give water to drink.



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Most important symptoms/effects, acute and delayed: Causes irritation to skin, eyes and respiratory tract. May cause vomiting, diarrhoea, damage to tooth enamel, dermatitis.

Indication of immediate medical attention and special treatment needed: Notes to physician: No specific antidote, medical staff contacts Poisons Information Center. All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

SECTION 5: Fire-fighting measures

Suitable (and unsuitable) extinguishing media:

Suitable extinguishing media: SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray, fog or foam. Do not use water jet.

Unsuitable extinguishing media: Do not use straight steams of water.

Specific hazards arising from the chemical (e.g., nature of any hazardous combustion products):

May be combustible at high temperature. Slightly flammable to flammable in presence of heat. Non-explosive in presence of shocks. Fine dust dispersed in air in sufficient concentrations, and in the presences of an ignition source is a potential dust explosion hazard.

Hazardous thermal decomposition products: Carbon monoxide and carbon dioxide.

Special protective equipment and precautions for fire-fighters: Special protective equipment for fire fighters: Fire fighters should wear full protective clothing and self-contained breathing apparatus in positive pressure mode. Use water spray to cool unopened containers.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures: Evacuate personnel to safe areas. Wear protective clothing. Avoid contact with skin eyes and inhalation of vapors. Ventilate area of spill. Keep pure product away from drains, surface and ground water.

Methods and materials for containment and cleaning up:

Use appropriate tools to put the spilled solid in a convenient waste disposal container. Stop leak if without risk. Do not get water inside container.

**SECTION 7: Handling and storage****Precautions for safe handling:**

Handling: Use with adequate ventilation. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed.

Hygiene Measures: Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also section 8 for additional information measures.

For precautions see section 2 and section 16.

Conditions for safe storage, including any incompatibles: Store in cool, dry well-ventilated area. Keep away from incompatible materials (see section 10). Keep product in a dry and well-ventilated place. Packages which are opened must be carefully resealed and kept upright to prevent leakage.

SECTION 8: Exposure controls/personal protection

OSHA permissible exposure limit (PEL), American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Value (TLV), and any other exposure limit used or recommended by the chemical manufacturer, importer, or employer preparing the safety data sheet, where available.

US OSHA HAZARDOUS COMPONENTS (29 CFR 1910.1200) (Table Z-1 Limits for Air Contaminants):		
Substance	PEL-TWA (8 hour)	PEL-STEL (15 min)
Citric Acid	None known	None known

US ACGIH Threshold Limit Values		
Substance	TLV-TWA (8 hour)	TLV-STEL (15 min)
Citric Acid	None known	None known



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Canada. Alberta, Occupational Health and Safety Code		
Substance	TWA (8 hour)	STEL (15 min)
Citric Acid	None known	None known

Canada. British Columbia Occupational Exposure Limits		
Substance	TWA (8 hour)	STEL (15 min)
Citric Acid	None known	None known

Ontario Table of Occupational Exposure Limits made under the Occupational Health and Safety Act.		
Substance	TWA (8 hour)	STEL (15 min)
Citric Acid	None known	None known

Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants		
	TWAEV (8 hour)	STEV (15 min)
Citric Acid	None known	None known

Appropriate engineering controls: Use process enclosures, local exhaust ventilation, or others engineering controls to keep airborne levels below recommend exposure limits. Ensure that eyewash stations and safety showers are proximal to the work-station location. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Individual protection measures, such as personal protective equipment:

Eye/face protection: Wear safety glasses for eye protection that are tested and approved under appropriate government standards such as NIOSH (US).



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Skin and hand protection: Wear suitable protective clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Respiratory protection: In case of insufficient ventilation, wear suitable respiratory equipment. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US).

General hygiene considerations: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

SECTION 9: Physical and chemical properties

Appearance (physical state, color, etc.):

Physical state:	Solid (Crystalline Powder).
Color:	White
Odor:	Odorless
Odor threshold:	No data available
pH:	No data available
Melting point/freezing point:	150°C
Initial boiling point and boiling range:	Decomposes
Flash point:	155°C
Evaporation rate:	No data available
Flammability (solid, gas):	No data available.
Upper/lower flammability or explosive limits	
Flammability limit – lower (%):	Not applicable
Flammability limit – upper (%):	Not applicable
Explosive limit – lower (%):	Not applicable
Explosive limit – upper (%):	Not applicable
Vapor pressure:	No data available
Vapor density:	No data available
Relative density:	No data available



Solubility (ies):	Soluble in cold water, hot water.
Partition coefficient (n-octanol/water):	-1.7
Auto-ignition temperature:	1010°C (1850°F)
Decomposition temperature:	No data available
Viscosity (dynamic):	No data available

SECTION 10: Stability and reactivity

Reactivity:	No specific test data related to reactivity available for this product.
Chemical stability:	Stable under normal ambient and anticipated conditions of use.
Possibility of hazardous reactions:	Hazardous reactions not anticipated under normal temperature and pressures.
Conditions to avoid:	Extremes of temperature and direct sunlight.
Incompatible materials:	Materials to avoid include; Oxidizing agents, Bases, Reducing agents, Nitrates. Heavy metals. Non-corrosive in presence of glass.
Hazardous decomposition Products:	Carbon oxides.

SECTION 11: Toxicological information

Information on likely routes of exposure:

Inhalation:	Not expected to be a route of entry.
Ingestion:	Expected to be a route of entry.
Skin:	Expected to be a route of entry.
Eyes:	Expected to be a route of entry.

Target Organs:	Eyes.
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Symptoms related to the physical, chemical, and toxicological characteristics:
May cause eye irritation.

Delayed and immediate effects and chronic effects from short or long-term exposure:
None known.



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Numerical measures of toxicity (such as acute toxicity estimates):

Ingredient Information:

Substance	Test Type (species)	Value
Citric Acid	LD ₅₀ Oral (Rat)	5400 mg/kg
	LD ₅₀ Dermal (Rabbit)	>2000 mg/kg
	LC ₅₀ Inhalation (Rat)	No data available
PRODUCT – Chamber Brite	LD ₅₀ Oral (Rat)	3000 mg/kg
	LD ₅₀ Dermal (Rat)	No data available
	LC ₅₀ Inhalation (Rat)	No data available

Skin corrosion/irritation:	Not expected to cause skin corrosion or irritation.
Serious eye damage/eye irritation:	Causes eye irritation and tissue damage on mucous membranes.
Respiratory sensitization:	Not expected to cause respiratory sensitization.
Skin sensitization:	Not expected to cause skin sensitization.
Germ cell mutagenicity:	Not expected to cause germ cell mutagenicity.
Carcinogenicity:	Not listed in the National Toxicology Program (NTP) Report on Carcinogens (latest edition) or has been found to be a potential carcinogen in the International Agency for Research on Cancer (IARC) Monographs (latest edition), or by OSHA.
Reproductive toxicity:	Not expected to cause reproductive toxicity.
Specific target organ toxicity- Single exposure:	This material is not expected to cause damage to organs from a single exposure.
Specific target organ toxicity- Repeat exposure:	May cause damage to the following organs: teeth.
Aspiration hazard:	This product is not anticipated to be an aspiration hazard.

**SECTION 12: Ecological information**

Ecotoxicity (aquatic and terrestrial, where available):

Product data: No data available

Ingredient Information:

Substance	Test Type	Species	Value
Citric acid	LC ₅₀	Fish Leuciscus idus melanotus	440 mg/l 48 hours
	EC ₅₀	Daphnia magna	1.535 mg/l 24 hours
	EC ₅₀	Algae	No data available

Persistence and Degradability: Not established.

Bioaccumulative Potential: Not established

Mobility in Soil: Not established.

Other adverse effects (such as hazardous to the ozone layer): Not established.

SECTION 13: Disposal considerations

Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging.

Product - Must not be disposed together with household garbage. Do not allow product to reach sewage system. Dispose of waste materials in accordance with applicable local and national laws and regulations.

Contaminated packaging - Since emptied containers retain product residue, follow label warnings even after container is emptied. Dispose of as unused product.

SECTION 14: Transport Information

US Department of Transportation Classification (49CFR)

Not regulated by DOT.



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IMDG (Transport by sea)

Not regulated by IMDG.

IATA (Transport by air)

Not regulated by IATA.

Canada TDG Transportation of Dangerous Goods Regulations (SOR/2001-286)

Not regulated by TDG.

Environmental hazards

Marine pollutant: No

Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code)

No further relevant information available.

Special precautions which a user needs to be aware of, or needs to comply with, in connection with transport or conveyance either within or outside their premises.

None known

SECTION 15: Regulatory Information

USA:

United States Federal Regulations: This SDS complies with the OSHA, 29 CFR 1910.1200.

Toxic Substances Control Act (TSCA) – All of the ingredients are listed/registered or exempted on the U.S. EPA TSCA Inventory List.

CERCLA RQ: None listed

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories:

Acute (Immediate) Health Hazard - Yes

Chronic (Delayed) Health Hazard - No

Fire Hazard - No

Pressure Hazard - No

Reactivity Hazard – No

Section 302 Extremely Hazardous Substance (40 CFR 355, Appendix A): None listed





Section 311 hazardous chemical: None listed

SARA Section 313 (Specific toxic chemical listings): None listed

STATE REGULATIONS:

This SDS contains specific health and safety data is applicable for state requirements. For details on your regulatory requirements you should contact the appropriate agency in your state.

California Proposition 65 (California Safe Drinking Water and Toxic Enforcement Act of 1986:
No components are listed on Prop 65.

Massachusetts Right to Know: None of the components are listed on the Massachusetts Right to Know List.

New Jersey Right to Know: Citric acid is listed on the New Jersey Right to Know list.

Pennsylvania Right to Know: Citric acid is listed on the Pennsylvania Right to Know List.

WHMIS Classification

Class D2B Toxic Material Causing Other Toxic Effects Moderate eye irritant

SECTION 16: Other Information

Revision Date: November 20th 2016

DISCLAIMER:

To the best of our knowledge the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.