

# CLEARCIL

EPA registration Number : 69461-1-75217

Previous version : -

EMERGENCY ( 24h/24, 7d/7 ) => Call 1-800-654-6911  
TRANSPORTATION ACCIDENT => Call 1-800-424-9300 (Chemtrec®)  
MSDS QUESTIONS & REQUESTS => [fa.legrand@pareva.fr](mailto:fa.legrand@pareva.fr)

## **SECTION 1: Identification of the mixture and of the company**

### 1.1. Product identifier

Trade name: **CLEARCIL**

ABN: PHMB P20 D

PHMB = PolyHexaMethylene Biguanide

### 1.2. Relevant identified uses of the mixture and uses advised against

20%-PHMB solution is a cationic biocide to be used as a biocide product for general water treatment (disinfection) and more particularly for swimming pool and SPA water treatment.

### 1.3. Details of the supplier of the safety data sheet

Manufacturer **Laboratoire Pareva**

Distributor: **Mareva Inc.**

594 N, Ferdon Blvd - Crestview, FL 32536 - USA

Phone: 850-398-6393

FAX: 850-398-8157

Web: [www.revacil.us](http://www.revacil.us)

## **SECTION 2: Hazards identification**

OSHA Hazard Classification	<b>Eye, skin and respiratory irritant</b>
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Route of entry : ..... Skin, eye, ingestion  
Chemical interactions: ..... Unknown or reported interactions  
Medical Conditions Aggravated: None known

### Human Threshold Response Data:

Odor threshold: not established.

Irritation threshold: not established.

### Hazardous Materials Identification System (HMIS) and National Fire Protection Association Classification (NFPA):

Hazards ratings	Health	Flammability	Physical / instability	PPI / Special hazard
HMIS	2	0	0	-
NFPA	2	0	0	-

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### Immediate (acute) Health Effect

Inhalation toxicity:	Not expected to be toxic by inhalation. Vapors and/or aerosols which may be formed at elevated temperatures may be irritating to eyes and upper respiratory tract.
Skin toxicity:	Not expected to be absorbed through the skin. Skin contact may cause moderate irritation consisting of transient redness and swelling. This irritant effect would not be expected to result in permanent damage.
Eye toxicity:	Contact may cause moderate irritation consisting of transient redness swelling, and cause membrane discharge to the conjunctiva. Any visual impairment or corneal damage (opacity) would be expected to clear within several days.
Ingestion Toxicity:	Moderately toxic if swallowed. Ingestion may cause irritation of the gastrointestinal tract and gastrointestinal discomfort with any or all of the following symptoms: nausea, vomiting or diarrhea.
Acute Target Organ Toxicity:	May cause skin, eye and mucous membrane irritation (includes upper respiratory tract). Ingestion may cause gastrointestinal discomfort.

### Prolonged (Chronic) Health Effect

Carcinogenicity:	This product is not reported to be carcinogenic by any reference source including IARC, OSHA, NTP or EPA.
Reproductive and developmental toxicity:	Not known or reported to cause reproductive or developmental toxicity.
Inhalation:	There are no known or reported effects from chronic exposure.
Skin contact:	Repeated or prolonged skin contact may cause some individuals to develop skin rash and other skin complications due to allergic skin sensitization. PHMB when tested at 1.0% in the HRIPT, PHMB did not produce irritation or allergic skin reactions.
Ingestion:	There are no known or reported effects from chronic ingestion except for effects similar to those experienced from single exposure.
Sensitization:	Possible skin sensitizer based on animal tests PHMB when tested at 1.0% in the HRIPT, PHMB did not produce irritation or allergic skin reactions.
Chronic Target Organ Toxicity:	There are no known or reported effects to humans from repeat exposure to this product.
Supplemental Health Hazard Information:	Polyaminopropyl Biguanide, the biocidal active in this product, has been extensively studied for its toxicity to mammalian systems. Repeated inhalation exposure in rats over a period of 4 weeks resulted in eye and respiratory irritation and pneumonitis. Long term feeding studies in dogs show that the liver and kidney are target organs and the effect occurs only at very high doses. Polyaminopropyl Biguanide has been shown in animal studies to produce skin sensitization. Polyaminopropyl Biguanide is not readily bioavailable if ingested and is not well absorbed through skin. PHMB when tested at 1.0% in the HRIPT, PHMB did not produce irritation or allergic skin reactions.

## **SECTION 3: Composition/information on ingredients**

### 3.1. Substances

Chemical identity of the main constituent: PHMB

CAS registry number: 32289-58-0

CAS index name: Poly(iminoimidocarbonyliminoimidocarbonylimino hexamethylene, hydrochloride)

### 3.2. Mixture composition

Substances	CAS numbers	Rate
Water [ inert ingredient : solvent]	7732-18-5	79 - 81%
PHMB [Polymer]	32289-58-0	19 - 21%

### **SECTION 4: First aid measures**

General advice	Call a poison control center or doctor for treatment advice. For 24-hour emergency medical assistance, call emergency Number (see page 1)
INHALATION	IF INHALED: Move person to fresh air. If person is not breathing, call emergency Number (see page 1) or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.
SKIN CONTACT	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.
EYE CONTACT	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.
INGESTION	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.

### **SECTION 5: Fire-fighting measures**

Flammability Summary (OSHA):	Combustible.
<u>Flammable Properties:</u>	
Flash Point:	>93 DEG° C / 201 DEG° F
Autoignition Temperature:	Not applicable
Extinguishing Media:	Choose extinguishing media suitable for surrounding materials. In case of fire, use normal fire-fighting equipment and the personal protective equipment recommended in Section 8 to include a NIOSH approved self-contained breathing apparatus. Use water to cool containers.
Fire Fighting Instructions:	
Hazardous Combustion Products:	Carbon monoxide, Carbon dioxide
Upper Flammable / explosive Limit (% in air):	Not applicable
Lower Flammable / explosive Limit (% in air):	Not applicable

### **SECTION 6: Accidental release measures**

Personal Protection for Emergency Situations:	Use the personal protective equipment recommended in Section 8 and a NIOSH approved self-contained breathing apparatus.
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Spill Mitigation Procedures:

Air release:	Hazardous concentration in air may be found in local spill area and immediately downwind. Contain all liquids for treatment or disposal.
Water release:	Notify all downstream users of possible contamination. Diverts water flow around spill if possible and safe to do so. Contain all liquids for treatment or disposal.
Land release:	Create a dike or trench to contain materials. Absorb spill with inert material(e.g., dry sand, clay, earth or commercial absorbent), then place in a chemical waste container. Contain all liquids for treatment or disposal. Avoid runoff into storm sewers and ditches which lead to waterways.
Additional Spill information:	Utilize emergency response personal protection equipment prior to the start of any response. Evacuate all non-essential personnel. Stop source of spill as soon as possible and notify appropriate personnel. Dispose of spill residues per guidelines under Section 13, Disposal Consideration.

**SECTION 7: Handling and storage**

7.1. Precautions for Safe Handling

- Do not take internally. Avoid contact with skin, eyes and clothing. Upon contact with skin or eyes, wash off with water. Avoid breathing (dust, vapour, mist, gas).
- Keep the product in its original container, properly sealed.
- Do not mix with other chemicals.
- Large quantities should be handled in a retention area to avoid spills to the environment.
- Do not use high pressure systems to transfer the substance to an open container to prevent accidental aerosol generation.
- Avoid splashing and misting or spray generation
- Keep away from food, drink and animal feeding stuffs.
- Do not eat, drink or smoke in working area.
- Avoid contact with eyes and skin.
- Wash hands after handling
- Remove all contaminated clothing before entering the premises for domestic use (kitchen, rest room).

7.2. Conditions for Safe Storage:

- Store in a cool dry ventilated location, away from sources of ignition or other incompatible conditions and chemicals. Keep container(s) close.
- Storage Temperature:
  - Maintain at T>6°C (~42F) to avoid precipitation (white jellified solid in the bottom of the containers). Becomes limpid again and keeps its activity after some time in a warm place.
  - Keep away from incompatible products and food.
- Materials
  - Recommended: High Density PolyEthylene (HDPE), PolyPropylene (PP), PVC, Stainless Steels.
  - Not suitable: metallic materials (Cu, Fe, Zn, ordinary steels,...), and some kind of rubbers.

7.3. Incompatibilities: refer to Section 10 (“Incompatible materials”).

7.4. Empty Container Warning: Empty containers retain product residue (liquid and/or vapour) and can be dangerous.

**SECTION 8: Exposure Controls / Personal Protection**

Ventilation: Local exhaust ventilation is recommended if vapors, mists or aerosols are generated. Otherwise, use general exhaust ventilation.

**Protective Equipment for Routine Use of the Product:**

Respiratory protection: If vapors, mists or aerosols are generated, wear a NIOSH approved respirator.

Skin Protection: Use impervious gloves. When exposure to high concentrations are prolonged or repeated use protective boots and apron in addition to gloves.

Eye Protection: Use chemical goggles.

Protective Clothing Type: Impervious

Exposure Limit Data: No data found.

**SECTION 9: Physical and chemical properties****9.1. Information on basic physical and chemical properties**

Aspect	Blue, Clear to slightly opalescent liquid
Odour	Lavander / Lavandin
Odour threshold	~ 5% (expressed in product as supplied)
pH à 20°C (68F)	4,0 - 5,0
Boiling point	102 - 105°C (215 -221F)
Freezing point	n.a. : active ingredient precipitate at temperatures <6°C (~42F)
Melting point	n.a. (after water evaporation, the remaining solid decomposes at 200-230°C (392-446 F)
Flammability	Not flammable preparation
Flash point	n.a. (this preparation does not emit flammables vapours)
Ignition / explosion Limits	n.a.
Auto-Ignition Temperature (AIT)	No Auto-Ignition Temperature below 400°C (752F)
Decomposition temperature	This preparation is stable until its boiling temperature: solid active substance decomposes at 200-230°C (392-446 F)
Mass density at 20°C (68F)	1,039-1,046 kg/L
Vapour Pressure at 20°C (68F)	40 HPa
Vapour Density	n.a.
Partition coefficient n-oct./eau	0.004 at 22°C / 72F => Log <sub>10</sub> P <sub>o/w</sub> = -2.39
Evaporation rate	No data
Volatiles (% , vol/vol)	No data
VOC content	No data
HAP content	No data
Solubility	<ul style="list-style-type: none"> <li>- Soluble in water in any proportions</li> <li>- Soluble in aliphatic polar alcohols and glycol</li> <li>- Not soluble in les hydrocarbons</li> <li>- methanol : 205.6 g/L @ 25°C (77F)</li> <li>- acetone : 72 mg/L @ 25°C (77F)</li> <li>- n-hexane : 184 mg/L @ 25°C (77F)</li> </ul>
Dynamic viscosity	1,2.10 <sup>-3</sup> Pa.s at 20°C (68F)

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Cinematic viscosity	4.5 - 5.2 mm <sup>2</sup> /s at 20 °C (68F)
Explosives Property	No
Oxidising Property	No
OTHER PROPERTIES	- Complexes most of metallic cations (Fe <sup>2+</sup> , Cu <sup>2+</sup> , Ni <sup>2+</sup> , Zn <sup>2+</sup> , ...) - Cationic product not compatible with anionic compounds.

*n.a. = not applicable*

## 9.2. Other information

Surface tension	71.5 mN/m @ 20°C. (at 1 g of PHMB a.i./L)
Sequestering	Complexes most of divalent metal cations (Fe, Cu, Ni,...)
Cationic product	Not compatible with anionic substances and their formulations (precipitate)
Oxydability	PHMB (main active ingredient) is oxidised by usual oxidisers: chlorine derivatives, ozone, ...

## **SECTION 10: Stability and reactivity**

Stability and Reactivity Summary	Stable preparation between +10 °C and +75 °C Stable under normal conditions. Product will not undergo hazardous polymerization.
Conditions to avoid	Avoid contamination. Temperatures below 6°C or > 50 °C (<42F and >122F). Exposure to direct sunlight. (discolouration of the blue dye, without consequences to the product efficacy or stability).
Chemical Incompatibility:	Metals (iron or steel, Copper, Nickel ...) and solutions containing metal cations. Anionic substances or preparations containing anionic substances.
Hazardous Decomposition Products	Carbon monoxide, Carbon dioxide, nitrogen oxides, Ammonia, Halogens, halogen acids, possible trace amounts of carbonyl halide.
Decomposition Temperature	No data

## **SECTION 11: Toxicological information**

### Acute toxicity

Oral LD50 (rat): dose > 2000 mg/kg bw (ingestion may cause irritation to mucous membranes).

### Skin corrosion / Skin irritation

Irritating to skin.

### Eye corrosion / eye irritation

May irritate eyes.

### Acute inhalation toxicity

Inhalation may cause irritation to the nose, throat, upper respiratory tract and lungs.  
But the physical form of the substance, makes inhalation not likely.

### Skin sensitisation

Possible skin sensitizer based on animal tests.

PHMB when tested at 1% in the Human Repeat Insult Patch Testing (HRIPT), did not produce irritation or allergic reactions.

**Summary on acute Toxicity**

May cause skin, eye and mucous membranes irritation (includes upper respiratory tract). May cause lethargy or diarrhea from ingestion.

Repeated dose toxicity (sub-chronic / chronic toxicity)

Not known or reported to cause sub-chronic or chronic toxicity

Carcinogenicity

This product is not known or reported to be carcinogenic by any reference source including IARC, OSHA, NTP or EPA.

PHMB when administered to mice at very high dose induced an increased incidence of cancer in mice. Under the conditions of anticipated use of this product, PHMB does not represent a risk to man.

Mutagenicity

Not known or reported to be mutagenic.

Reproductive Toxicity

Not known or reported to cause reproductive or developmental toxicity.

Effect on Development

Not known or reported to cause reproductive or developmental toxicity.

Further information

No data available.

**SECTION 12: Ecological information**

Ecotoxicity: PAPB is toxic to aquatic species (LC and EC50's within the range of 0.1 to 1.0 mg/L). It is unlikely to bioaccumulate or persist in the aquatic environment.

Environmental fate: PAPB will be predominantly absorbed onto the sludge solids; the remainder is unlikely to be readily or inherently biodegraded or abiotically degraded with the exception of low molecular weight species.

PAPB could be slightly inhibitory to sewage treatment systems. However, at the low concentrations typically discharged to and received by treatment systems, adverse impact are unlikely.

PAPB is unlikely to adversely affect plants or soil indigenous species.

**SECTION 13: Disposal considerations**

**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 relevant local, state and federal laws and regulations regarding treatment, storage and disposal for hazardous and nonhazardous wastes.**

Waste disposal Summary: If this product becomes a waste, it will be a non-hazardous waste according to U.S. RCRA regulations. Dispose of in accordance with all Local, State, Federal and Provincial Environmental Regulations.

Disposal Methods: As a non-hazardous waste, it should be disposed of in accordance with local, state and federal regulations.

Potential US EPA waste Code: Not applicable.

#### **SECTION 14: Transport information**

Transport classification according to European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR)

UN number: UN 3082

UN proper shipping name: hazardous material from the point of view of the liquid environment-NSA (PolyHexaMethylene Biguanide)

Transport hazard classe(s): 9 ==> Labels: 9

Packing group: III

##### 14.5. Environmental hazards

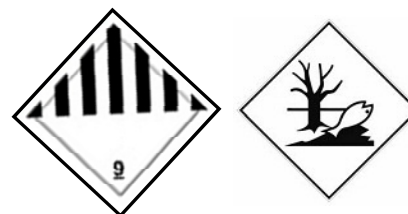
- Tunnel Code (ADR): E
- Dangerous for the environment: Yes
- Marine pollutant: Yes (see the MEPC resolution N°156(55): "amendments to annex III of MARPOL 73/78")

Special precautions for user: -

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

Other information:

- Transport under the exemption in Limited quantities, LQ = 5L / 30 kg
- Flash Point: boils without flashing



#### **SECTION 15: Regulatory information (United States)**

Toxic Substances Control Act (TSCA): -

Environment Protection Agency: Registered product => EPA Reg. Number 69461-1

FIFRA Listing of Pesticide Chemicals (40 CFR 180): This product is registered under the Federal Insecticide, Fungicide and Rodenticide Act. It must be used for purposes consistent with its labelling.

Food & Drug Administration (FDA): not registered

Food & Drug Act(F&DA) (Canada)

Substances in Cosmetics and Personal Care Products Regulated Under the Food and Drugs Act (F&DA) that Were In Commerce between January 1, 1987 and September 13, 2001.  
Registered under the CAS 133029-32-0 (PolyAminoPropyl Biguanide)

Emergency Planning and Community Right to know (40 CFR 355, App A): -

Extremely Hazardous Substances Section 302 – Threshold Planning Quantity: none established (SARA III - Threshold Planning Quantity)



Reportable Quantity (49 CFR 172.101, Appendix) : CERCLA : None established  
SARA III : None established

Supplier Notification Requirements (40 CFR 372.45), 313 (Reportable Components): None established  
(SARA III – DE minimis concentration)

Clean Air Act, Toxic ARP Section 112r (CAA 112r): None established

Clean Air Act, Socmi (HON SOC): None established

Clean Air Act, VOC Section (CAA 111): None established

Clean Air Act, Hazardous Air Pollutants (section 112): None established

Clean Air Act VOC Section (CAA 111):

CAA None established  
CAA 112i None established  
CAA AP None established

State Right-to-know regulations status of ingredients

Pennsylvania (PENN RTK): None established  
New Jersey (NJ RTK): None established  
Massachusetts (MASS RTK): None established  
California Proposition 65 US CA CRT None established  
US CA65 CRT None established

WHMIS Hazard Classification: None established

### **SECTION 16: Other information**

Superfund Amendments and Reauthorisation Act (SARA) Title III:

EPCRA (SARA) 311/312 hazards

Delayed: yes No (chronic) health hazard, includes "carcinogens" and other hazardous chemicals that cause an adverse effect to a target organ and the effect of which occurs as a result of long term exposure and is of long duration.

Immediate: yes No (acute) health hazard, includes "highly toxic," "toxic," "irritant," "sensitizer," "corrosive," and other hazardous chemicals that cause an adverse effect to a target organ which usually occurs rapidly as a result of a short term exposure.

Fire: yes No Fire hazard, includes "flammable," "combustible liquid," "pyrophoric," and "oxidizer."

Pressure: yes No Sudden release of pressure hazard includes "explosive," and "compressed gas."

Reactivity: yes No Reactive hazard, includes "unstable reactive," "organic peroxide," and "water reactive."

This Material Safety Data Sheet (MSDS) has prepared in compliance with the Federal OSHA Hazard Communication standard, 29 CFR 1910.1200. The information in this MSDS should be provided to all who will use, handle, store, transport, or otherwise be exposed to this product. This information has been prepared for the guidance of plant engineering, operations and management and for persons working with or handling this product. Laboratoire Paréva believes this information to be reliable and up to date as of the date of publication but, makes no warranty that it is. Additionally, if this MSDS is more than 3 years old, you should contact Laboratoire Paréva at the e-mail on the front page to make certain that this document is current.