

# DANTOBROM<sup>®</sup> P

Dantobrom PG is a halogenated dialkylhydantoin derivative in briquette form which functions as a microbiocide through the release of active bromine and chlorine. Dantobrom P is an algaecide and bactericide formulated specifically for the disinfection of pool water. When used as directed, Dantobrom P will keep pool water clean, clear, and free of odor, giving the effectiveness of chlorine without the chlorine odor.

## Chemical Composition

Dantobrom P is the briquette form containing 1-bromo-3-chloro-5,5-dimethylhydantoin, 1,3-dichloro-5, 5-dimethylhydantoin and 1,3-dichloro-5-ethyl-5-methylhydantoin.

## Typical Physical Properties

Color	Off White
Total Available Halogen as Chlorine, %Cl <sub>2</sub>	62.0
Available Chlorine, %Cl <sub>2</sub>	44
Available Bromine, %Br <sub>2</sub>	40
Active Bromine, (%)	19.6 Min
Active Chlorine, (%)	20.0 Min
MEH, %	5.0 Min
DMH, (%)	50.0 Min
CHCl <sub>3</sub> Insolubles, (%)	1.5 Max
Volatiles, %	0.5 Max
Odor	Slight
Briquette Wt. (g)	12
Briquette Density (g/cm <sup>3</sup> )	1.6
Briquette Bulk Density (lb/ft <sup>3</sup> )	65
Nominal Briquette Dimensions (cm)	4.2 x 2.2 x 1.3
Melting Range, powder, (°C)	120 – 148
pH, (1% Slurry at 25°C)	3.6
Decomposition Temperature (°C)	180

## Typical Physical Properties

Solubility in Water (g/100g at 25°C)	0.54
Total Insolubles, (%)	62.0
Physical Stability in Water	Stable
Odor in Solution	Slight Chlorine
Moisture Retention (%) (6 hour soak in water at 25°C)	7

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CAS NUMBERS	126-06-7	118-52-5	89415-57-2
EPA Registration Number		6836-118	

## **Toxicity Profile**

The active ingredients of Dantobrom P are 1-bromo-3-chloro-5,5-dimethylhydantoin, 1,3-dichloro-5, 5-dimethylhydantoin and 1,3-dichloro-5-ethyl-5-methylhydantoin. Under proper use conditions, these compounds primarily hydrolyze to hypobromous acid, hypochlorous acid, 5,5-dimethylhydantoin and 5-ethyl-5-methylhydantoin.

Dantobrom P is corrosive to the eyes and is a severe irritant to the skin. The acute oral studies produced the same effect among the related compounds, namely ataxia, decreased activity, bleeding in the thoracic cavity, stomach, and intestines

The acute toxicity data presented for Dantobrom P clearly show that the properties of Dantobrom P per se are, for all practical purposes, identical with other registered halogen donors that have been safely handled for many years. Lonza limited its acute toxicity testing because the several tests performed with Dantobrom P parallel the results obtained when Lonza extensively tested dichloro-dimethylhydantoin, dibromodimethylhydantoin, and bromochlorodimethylhydantoin.

Because it is known that the parent hydantoins are the products of hydrolysis, acute oral studies were performed with ethylmethylhydantoin and dimethylhydantoin. These compounds are not toxic.

## **Toxicology**

Acute Oral LD50 - Rats	Males-500 mg/kg Females-758 mg/kg
Primary Eye Irritation – Rabbits	Within 24 hours, both washed and Unwashed eyes were destroyed.
Primary Dermal Irritation – Rabbits	Corrosive; tissue destruction down to musculature. Edema in surrounding tissue.

## **Environmental Fate – Biodegradability**

Dantobrom P ultimately hydrolyzes. To further determine the environmental fate of dimethylhydantoin and ethylmethylhydantoin, a practical field study was undertaken, the results of which indicate that both dimethylhydantoin and ethylmethylhydantoin are biodegradable compounds. Therefore, their discharge should not threaten either man or the environment.

## **Processing and Handling Precautions**

Dantobrom P is an active halogen compound that remains stable provided it is stored in a cool dry area. Similar to other halogen generators, Dantobrom P will decompose if mixed with reactable oxidizable substances. Avoid mixing Dantobrom P with lubricating oils, strong acids, strong alkalis, reducing agents, and hydrating salts.

## **Safety and Health Information – First Aid**

**Eyes:** Flush eyes with large amounts of running water for at least 15 minutes. Hold eyelids apart to ensure rinsing of the entire surface of the eye and lids with water. If physician not available, flush for additional 15 minutes. Get immediate medical attention.

**Skin:** Immediately wipe away excess material with a dry cloth while removing contaminated clothing and shoes. Under a safety shower, wash affected areas thoroughly with large amounts of water, and soap if available, for at least 15 minutes. Get immediate medical attention. Discard or decontaminate clothing and shoes.

**Ingestion:** Immediately give several glasses of water, DO NOT induce vomiting. If vomiting occurs, give fluids again. Have physician determine if patient's condition allows induction of vomiting or evacuation of stomach. Do not give anything by mouth to an unconscious or convulsing person. Get immediate medical attention.

**Inhalation:** Remove from area to fresh air. If not breathing, clear airway and start mouth-to-mouth artificial respiration or use a bag-mask respirator. Get immediate medical attention. If the victim is having trouble breathing, transport to medical care and, if available, give supplemental oxygen.

**Note to Physician:** Probable mucosal damage may contraindicate the use of gastric lavage.

### **Containers and Labeling**

Dantobrom P is typically shipped in 50 lb. Net weight pails. 100 or 225 lb. Net weight fiber drums with locking lids and polyethylene liners can be made available upon special request. For transportation information please see MSDS for proper labeling.

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