

DANTOBROM™ S

Tablets and Briquettes

Dantobrom™ S is a halogenated dialkylhydantoin derivative in tablet and briquette form which functions as a microbicide through the release of active bromine and chlorine. Dantobrom™ S is an algacide and bactericide formulated specifically for the disinfection of spa and hot tub water. When used as directed, Dantobrom™ S will keep spa and hot tub water clean, clear, and free of odor, giving the effectiveness of chlorine without the chlorine odor.

Chemical Composition

Dantobrom S™ contains 1-bromo-3-chloro-5,5-dimethylhydantoin, 1,3-dichloro-5,5-dimethylhydantoin and 1,3-dichloro-5-ethyl-5-methylhydantoin.

Typical Physical Properties

Active Bromine, (%)	19.6 Min.
Active Chlorine, (%)	20.0 Min.
MEH, %.....	5.0 Min.
DMH, (%).....	50.0 Max.
CHCl ₃ Insolubles, (%)	1.5 Max.
Volatiles, %.....	0.5 Max.

Other Typical Properties

Total Available Halogen as Chlorine, %Cl ₂	62.0
Available Chlorine, %Cl ₂	44
Available Bromine, %Br ₂	40
Color	Off White
Odor	Slight
Melting Range, powder, (°C).....	120 – 148
pH, (1% Slurry at 25°C).....	4.0 – 7.0
Decomposition Temperature (°C).....	180
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 (%)	7
(6 hour soak in water at 25°C)	
Density (g/cm ³)	1.6
Bulk Density (lb/ft ³)	65

	<u>Briquettes</u>	<u>Tablets</u>
Wt. (g).....	12	16
Nominal Dimensions (cm).....	4.2 x 2.2 x 1.3	1-3/32 inches diameter

The seller makes no warranty, expressed or implied, concerning the accuracy of any results to be obtained from the use of this information and no warranty is expressed or implied concerning the use of these products other than indicated within. The buyer assumes all risks of use and/or handling. No statement is intended or should be construed as a recommendation to infringe any patent

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Toxicity Profile

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

Regulatory Information

CAS NUMBERS: 126-06-7; 118-52-5; 89415-57-2

EPA FIFRA:

This product is an EPA FIFRA registered pesticide (EPA Registration No. 6836-116).
This product may only be used in the EPA registered applications as stated on the product label.

TOXIC SUBSTANCES CONTROL ACT (TSCA INVENTORY) STATUS:

The components in this product are currently listed on U.S. EPA TSCA 8(b) inventory.

**CANADIAN WORKPLACE HAZARDOUS MATERIAL INFORMATION SYSTEM (WHMIS)
CLASSIFICATION**

Class C

DOMESTIC SUBSTANCE LIST (DSL) STATUS

The components of this material are currently listed on the Canadian DSL.

OTHER REGULATIONS:

The components of this product are reported in the following inventories: EINECS, ELINCS.

Containers and Labeling

Dantobrom S is available in 50 lb. net weight pails or 225 lb. net weight fiber drums with locking lids.

Manufacturing Location

Williamsport, PA, USA

For questions or for more information e-mail Technical Sales Support at contact.allendale@lonza.com or call 800-365-TECH (8324).