

# Easy Dose Cartridge Large/Mini, BCM-X Tablets

## Sterile Care

Chemwatch: 73-9419  
Version No: 2.1.1.1  
Safety Data Sheet according to WHS and ADG requirements

Chemwatch Hazard Alert Code: 3

Issue Date: 12/01/2021  
Print Date: 23/01/2021  
L.GHS.AUS.EN

## SECTION 1 IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

### Product Identifier

Product name	Easy Dose Cartridge Large/Mini, BCM-X Tablets
Synonyms	Not Available
Proper shipping name	OXIDISING SOLID, CORROSIVE, N.O.S. (contains 1-bromo-3-chloro-5,5-dimethylhydantoin)
Other means of identification	Not Available

### Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses	Biocide for water treatment.
--------------------------	------------------------------

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

Registered company name	Sterile Care
Address	Unit 17, 6 Abbot Rd Seven Hills NSW 2147 Australia
Telephone	+61 2 9674 8849
Fax	+61 2 9674 8843
Website	Not Available
Email	sterile_care@optusnet.com.au

### Emergency telephone number

Association / Organisation	Not Available
Emergency telephone numbers	131 126
Other emergency telephone numbers	Not Available

## SECTION 2 HAZARDS IDENTIFICATION

### Classification of the substance or mixture

**HAZARDOUS CHEMICAL. DANGEROUS GOODS. According to the WHS Regulations and the ADG Code.**

Poisons Schedule	S5
Classification [1]	Oxidizing Solid Category 2, Acute Toxicity (Oral) Category 4, Acute Toxicity (Inhalation) Category 4, Skin Corrosion/Irritation Category 1B, Serious Eye Damage Category 1, Skin Sensitizer Category 1, Carcinogenicity Category 2, Acute Aquatic Hazard Category 1
Legend:	1. Classified by Chemwatch; 2. Classification drawn from HSIS; 3. Classification drawn from EC Directive 1272/2008 - Annex VI

### Label elements

GHS label elements	
SIGNAL WORD	<b>DANGER</b>

### Hazard statement(s)

H272	May intensify fire; oxidiser.
H302	Harmful if swallowed.
H332	Harmful if inhaled.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H317	May cause an allergic skin reaction.
H400	Very toxic to aquatic life.

### Precautionary statement(s) Prevention

Continued...

P201	Obtain special instructions before use.
P210	Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P221	Take any precaution to avoid mixing with combustibles/organic material.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P281	Use personal protective equipment as required.
P220	Keep/Store away from clothing/organic material/combustible materials.
P270	Do not eat, drink or smoke when using this product.
P273	Avoid release to the environment.
P272	Contaminated work clothing should not be allowed out of the workplace.

**Precautionary statement(s) Response**

P301+P330+P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P310	Immediately call a POISON CENTER or doctor/physician.
P363	Wash contaminated clothing before reuse.
P370+P378	In case of fire: Use water jets for extinction.
P302+P352	IF ON SKIN: Wash with plenty of soap and water.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P391	Collect spillage.
P301+P312	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P304+P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

**Precautionary statement(s) Storage**

P405	Store locked up.
------	------------------

**Precautionary statement(s) Disposal**

P501	Dispose of contents/container in accordance with local regulations.
------	---

**SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS****Substances**

See section below for composition of Mixtures

**Mixtures**

CAS No	%[weight]	Name
32718-18-6	>96	<u>1-bromo-3-chloro-5,5-dimethylhydantoin</u>

**SECTION 4 FIRST AID MEASURES****Description of first aid measures**

Eye Contact	<p>If this product comes in contact with the eyes:</p> <ul style="list-style-type: none"> <li>■ Immediately hold eyelids apart and flush the eye continuously with running water.</li> <li>■ Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.</li> <li>■ Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes.</li> <li>■ Transport to hospital or doctor without delay.</li> <li>■ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.</li> </ul>
Skin Contact	<p>If skin or hair contact occurs:</p> <ul style="list-style-type: none"> <li>■ Immediately flush body and clothes with large amounts of water, using safety shower if available.</li> <li>■ Quickly remove all contaminated clothing, including footwear.</li> <li>■ Wash skin and hair with running water. Continue flushing with water until advised to stop by the Poisons Information Centre.</li> <li>■ Transport to hospital, or doctor.</li> </ul>
Inhalation	<p>If fumes or combustion products are inhaled remove from contaminated area.</p> <ul style="list-style-type: none"> <li>■ Lay patient down. Keep warm and rested.</li> <li>■ Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.</li> <li>■ Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.</li> <li>■ Transport to hospital, or doctor.</li> </ul>
Ingestion	<p>For advice, contact a Poisons Information Centre or a doctor at once.</p> <ul style="list-style-type: none"> <li>■ Urgent hospital treatment is likely to be needed.</li> <li>■ <b>If swallowed do NOT induce vomiting.</b></li> <li>■ If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.</li> <li>■ Observe the patient carefully.</li> </ul>

- Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.
- Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.
- Transport to hospital or doctor without delay.

#### Indication of any immediate medical attention and special treatment needed

Excellent warning properties force rapid escape of personnel from chlorine vapour thus most inhalations are mild to moderate. If escape is not possible, exposure to high concentrations for a very short time can result in dyspnea, haemophysis and cyanosis with later complications being tracheobroncho-pneumonitis and pulmonary oedema. Oxygen, intermittent positive pressure breathing apparatus and aerosolised bronchodilators are of therapeutic value where chlorine inhalation has been light to moderate. Severe inhalation should result in hospitalisation and treatment for a respiratory emergency.

Any chlorine inhalation in an individual with compromised pulmonary function (COPD) should be regarded as a severe inhalation and a respiratory emergency. [CCINFO, Dow 1988]

Effects from exposure to chlorine gas include pulmonary oedema which may be delayed. Observation in hospital for 48 hours is recommended

Diagnosed asthmatics and those people suffering from certain types of chronic bronchitis should receive medical approval before being employed in occupations involving chlorine exposure. If burn is present, treat as any thermal burn, after decontamination.

For acute or short term repeated exposures to strong acids:

- Airway problems may arise from laryngeal edema and inhalation exposure. Treat with 100% oxygen initially.
- Respiratory distress may require cricothyroidotomy if endotracheal intubation is contraindicated by excessive swelling
- Intravenous lines should be established immediately in all cases where there is evidence of circulatory compromise.
- Strong acids produce a coagulation necrosis characterised by formation of a coagulum (eschar) as a result of the desiccating action of the acid on proteins in specific tissues.

#### INGESTION:

- Immediate dilution (milk or water) within 30 minutes post ingestion is recommended.
- DO NOT attempt to neutralise the acid since exothermic reaction may extend the corrosive injury.**
- Be careful to avoid further vomit since re-exposure of the mucosa to the acid is harmful. Limit fluids to one or two glasses in an adult.
- Charcoal has no place in acid management.
- Some authors suggest the use of lavage within 1 hour of ingestion.

#### SKIN:

- Skin lesions require copious saline irrigation. Treat chemical burns as thermal burns with non-adherent gauze and wrapping.
- Deep second-degree burns may benefit from topical silver sulfadiazine.

#### EYE:

- Eye injuries require retraction of the eyelids to ensure thorough irrigation of the conjunctival cul-de-sacs. Irrigation should last at least 20-30 minutes. **DO NOT use neutralising agents or any other additives.** Several litres of saline are required.
- Cycloplegic drops, (1% cyclopentolate for short-term use or 5% homatropine for longer term use) antibiotic drops, vasoconstrictive agents or artificial tears may be indicated dependent on the severity of the injury.
- Steroid eye drops should only be administered with the approval of a consulting ophthalmologist).

[Ellenhorn and Barceloux: Medical Toxicology]

Depending on the degree of exposure, periodic medical examination is indicated. The symptoms of lung oedema often do not manifest until a few hours have passed and they are aggravated by physical effort. Rest and medical observation is therefore essential. Immediate administration of an appropriate spray, by a doctor or a person authorised by him/her should be considered.

(ICSC24419/24421

## SECTION 5 FIREFIGHTING MEASURES

### Extinguishing media

#### FOR SMALL FIRE:

- USE FLOODING QUANTITIES OF WATER.
- DO NOT use dry chemical, CO<sub>2</sub>, foam or halogenated-type extinguishers.**

#### FOR LARGE FIRE

- Flood fire area with water from a protected position

### Special hazards arising from the substrate or mixture

<b>Fire Incompatibility</b>	<ul style="list-style-type: none"> <li>Avoid storage with reducing agents.</li> <li>Avoid any contamination of this material as it is very reactive and any contamination is potentially hazardous</li> </ul>
-----------------------------	---

### Advice for firefighters

<b>Fire Fighting</b>	<p>Alert Fire Brigade and tell them location and nature of hazard.</p> <p>May be violently or explosively reactive.</p> <p>Wear full body protective clothing with breathing apparatus.</p> <p>Prevent, by any means available, spillage from entering drains or water courses.</p> <p>Fight fire from a safe distance, with adequate cover.</p> <ul style="list-style-type: none"> <li>Extinguishers should be used only by trained personnel.</li> <li>Use water delivered as a fine spray to control fire and cool adjacent area.</li> <li><b>DO NOT</b> approach containers suspected to be hot.</li> <li>Cool fire exposed containers with water spray from a protected location.</li> <li>If safe to do so, remove containers from path of fire.</li> <li>If fire gets out of control withdraw personnel and warn against entry.</li> <li>Equipment should be thoroughly decontaminated after use.</li> </ul>
<b>Fire/Explosion Hazard</b>	<ul style="list-style-type: none"> <li>Combustible solid which burns but propagates flame with difficulty; it is estimated that most organic dusts are combustible (circa 70%) - according to the circumstances under which the combustion process occurs, such materials may cause fires and / or dust explosions.</li> <li>Organic powders when finely divided over a range of concentrations regardless of particulate size or shape and suspended in air or some other oxidizing medium may form explosive dust-air mixtures and result in a fire or dust explosion (including secondary explosions).</li> <li>Avoid generating dust, particularly clouds of dust in a confined or unventilated space as dusts may form an explosive mixture with air, and any source of ignition, i.e. flame or spark, will cause fire or explosion. Dust clouds generated by the fine grinding of the solid are a particular hazard; accumulations of fine dust (420 micron or less) may burn rapidly and fiercely if ignited - particles exceeding this limit will generally not form flammable dust clouds; once initiated, however, larger particles up to 1400 microns diameter will contribute to the propagation of an explosion.</li> <li>In the same way as gases and vapours, dusts in the form of a cloud are only ignitable over a range of concentrations; in principle, the concepts of lower explosive limit (LEL) and upper explosive limit (UEL) are applicable to dust clouds but only the LEL is of practical use; - this is because of the inherent difficulty of achieving homogeneous dust clouds at high temperatures (for dusts the LEL is often called the "Minimum Explosible Concentration", MEC).</li> <li>When processed with flammable liquids/vapors/mists, ignitable (hybrid) mixtures may be formed with combustible dusts. Ignitable mixtures will increase the rate of explosion pressure rise and the Minimum Ignition Energy (the minimum amount of energy required to ignite dust clouds - MIE) will be lower than the pure dust in air mixture. The Lower Explosive Limit (LEL) of the vapour/dust mixture will be lower than the individual LELs for the vapors/mists or dusts.</li> <li>A dust explosion may release of large quantities of gaseous products; this in turn creates a subsequent pressure rise of explosive force capable of damaging plant and buildings and injuring people.</li> <li>Usually the initial or primary explosion takes place in a confined space such as plant or machinery, and can be of sufficient force to damage or rupture the plant. If the shock wave from the primary explosion enters the surrounding area, it will disturb any settled dust layers, forming a second dust cloud, and often</li> </ul>

## Easy Dose Cartridge Large/Mini, BCM-X Tablets

initiate a much larger secondary explosion. All large scale explosions have resulted from chain reactions of this type. Dry dust can be charged electrostatically by turbulence, pneumatic transport, pouring, in exhaust ducts and during transport. Build-up of electrostatic charge may be prevented by bonding and grounding.

Powder handling equipment such as dust collectors, dryers and mills may require additional protection measures such as explosion venting. All movable parts coming in contact with this material should have a speed of less than 1-meter/sec.

A sudden release of statically charged materials from storage or process equipment, particularly at elevated temperatures and/ or pressure, may result in ignition especially in the absence of an apparent ignition source.

One important effect of the particulate nature of powders is that the surface area and surface structure (and often moisture content) can vary widely from sample to sample, depending of how the powder was manufactured and handled; this means that it is virtually impossible to use flammability data published in the literature for dusts (in contrast to that published for gases and vapours).

Autoignition temperatures are often quoted for dust clouds (minimum ignition temperature (MIT)) and dust layers (layer ignition temperature (LIT)); LIT generally falls as the thickness of the layer increases.

Combustion products include:

- , carbon monoxide (CO)
- , carbon dioxide (CO<sub>2</sub>)
- , hydrogen chloride
- , phosgene
- , other pyrolysis products typical of burning organic material.

HAZCHEM 1W

## SECTION 6 ACCIDENTAL RELEASE MEASURES

## Personal precautions, protective equipment and emergency procedures

See section 8

## Environmental precautions

See section 12

## Methods and material for containment and cleaning up

<b>Minor Spills</b>	<p>Drains for storage or use areas should have retention basins for pH adjustments and dilution of spills before discharge or disposal of material.</p> <p>Check regularly for spills and leaks.</p> <p>Clean up all spills immediately.</p> <p>No smoking, naked lights, ignition sources.</p> <p>Avoid all contact with any organic matter including fuel, solvents, sawdust, paper or cloth and other incompatible materials, as ignition may result.</p> <p>Avoid breathing dust or vapours and all contact with skin and eyes.</p> <p>Control personal contact with the substance, by using protective equipment.</p> <p>Contain and absorb spill with dry sand, earth, inert material or vermiculite.</p> <p><b>DO NOT use sawdust as fire may result.</b></p> <p>Scoop up solid residues and seal in labelled drums for disposal.</p> <p>Neutralise/decontaminate area.</p>
<b>Major Spills</b>	<p>Clear area of personnel and move upwind.</p> <p>Alert Fire Brigade and tell them location and nature of hazard.</p> <p>May be violently or explosively reactive.</p> <p>Wear full body protective clothing with breathing apparatus.</p> <p>Prevent, by any means available, spillage from entering drains or water courses.</p> <p>No smoking, flames or ignition sources.</p> <p>Increase ventilation.</p> <p>Contain spill with sand, earth or other clean, inert materials.</p> <p><b>NEVER USE</b> organic absorbents such as sawdust, paper or cloth.</p> <p>Use spark-free and explosion-proof equipment.</p> <p>Collect any recoverable product into labelled containers for possible recycling.</p> <p>Avoid contamination with organic matter to prevent subsequent fire and explosion.</p> <p><b>DO NOT mix fresh with recovered material.</b></p> <p>Collect residues and seal in labelled drums for disposal.</p> <p>Wash area and prevent runoff into drains.</p> <p>Decontaminate equipment and launder all protective clothing before storage and re-use.</p> <p>If contamination of drains or waterways occurs advise emergency services.</p>

Personal Protective Equipment advice is contained in Section 8 of the SDS.

## SECTION 7 HANDLING AND STORAGE

## Precautions for safe handling

<b>Safe handling</b>	<ul style="list-style-type: none"> <li>■ Avoid personal contact and inhalation of dust, mist or vapours.</li> <li>■ Provide adequate ventilation.</li> <li>■ Always wear protective equipment and wash off any spillage from clothing.</li> <li>■ Keep material away from light, heat, flammables or combustibles.</li> <li>■ Keep cool, dry and away from incompatible materials.</li> <li>■ Avoid physical damage to containers.</li> <li>■ <b>DO NOT</b> repack or return unused portions to original containers. Withdraw only sufficient amounts for immediate use.</li> <li>■ Use only minimum quantity required.</li> <li>■ Avoid using solutions of peroxides in volatile solvents. Solvent evaporation should be controlled to avoid dangerous concentration of the peroxide.</li> <li>■ Do NOT allow peroxides to contact iron or compounds of iron, cobalt, or copper, metal oxide salts, acids or bases.</li> <li>■ Do NOT use metal spatulas to handle peroxides</li> <li>■ Do NOT use glass containers with screw cap lids or glass stoppers.</li> <li>■ Store peroxides at the lowest possible temperature, consistent with their solubility and freezing point.</li> </ul>
----------------------	--

Continued...

## Easy Dose Cartridge Large/Mini, BCM-X Tablets

	<ul style="list-style-type: none"> <li>■ CAUTION: Do NOT store liquids or solutions of peroxides at a temperature below that at which the peroxide freezes or precipitates. Peroxides in this form are extremely shock and heat-sensitive. Refrigerated storage of peroxides must ONLY be in explosion-proof units.</li> <li>■ The hazards and consequences of fires and explosions during synthesis and use of peroxides is widely recognised; spontaneous or induced decomposition may culminate in a variety of ways, ranging from moderate gassing to spontaneous ignition or explosion. The heat released from spontaneous decomposition of an energy-rich compound causes a rise in the surrounding temperature; the temperature will rise until thermal balance is established or until the material heats to decomposition.</li> <li>■ The most effective means for minimising the consequences of an accident is to limit quantities to a practical minimum. Even gram-scale explosions can be serious. Once ignited the burning of peroxides cannot be controlled and the area should be evacuated.</li> <li>■ Unless there is compelling reason to do otherwise, peroxide concentration should be limited to 10% (or less with vigorous reactants). Peroxide concentration is rarely as high as 1% in the reaction mixture of polymerisation or other free-radical reactions.</li> <li>■ Peroxides should be added slowly and cautiously to the reaction medium. This should be completed prior to heating and with good agitation.</li> <li>■ Addition of peroxide to the hot monomer is extremely dangerous. A violent reaction (e.g., fire or explosion) can result from inadvertent mixing of promoters (frequently used with peroxides in polymerisation systems) with full-strength peroxide</li> <li>■ Organic peroxides are very sensitive to contamination (especially heavy-metal compounds, metal oxide salts, alkaline materials including amines, strong acids, and many varieties of dust and dirt). This can initiate rapid, uncontrolled decomposition of peroxides and possible generation of intense heat, fire or explosion. The consequences of accidental contamination from returning withdrawn material to the storage container can be disastrous.</li> <li>■ When handling NEVER smoke, eat or drink.</li> <li>■ Always wash hands with soap and water after handling.</li> <li>■ Use only good occupational work practice.</li> <li>■ Observe manufacturer's storage and handling recommendations contained within this SDS.</li> <li>■ Organic powders when finely divided over a range of concentrations regardless of particulate size or shape and suspended in air or some other oxidizing medium may form explosive dust-air mixtures and result in a fire or dust explosion (including secondary explosions)</li> </ul> <p>Minimise airborne dust and eliminate all ignition sources. Keep away from heat, hot surfaces, sparks, and flame.</p> <p>Establish good housekeeping practices.</p> <p>Remove dust accumulations on a regular basis by vacuuming or gentle sweeping to avoid creating dust clouds.</p> <p>Use continuous suction at points of dust generation to capture and minimise the accumulation of dusts. Particular attention should be given to overhead and hidden horizontal surfaces to minimise the probability of a "secondary" explosion. According to NFPA Standard 654, dust layers 1/32 in.(0.8 mm) thick can be sufficient to warrant immediate cleaning of the area.</p> <p>Do not use air hoses for cleaning.</p> <p>Minimise dry sweeping to avoid generation of dust clouds. Vacuum dust-accumulating surfaces and remove to a chemical disposal area. Vacuums with explosion-proof motors should be used.</p> <p>Control sources of static electricity. Dusts or their packages may accumulate static charges, and static discharge can be a source of ignition. Solids handling systems must be designed in accordance with applicable standards (e.g. NFPA including 654 and 77) and other national guidance.</p> <p>Do not empty directly into flammable solvents or in the presence of flammable vapors.</p> <p>The operator, the packaging container and all equipment must be grounded with electrical bonding and grounding systems. Plastic bags and plastics cannot be grounded, and antistatic bags do not completely protect against development of static charges.</p> <p>Empty containers may contain residual dust which has the potential to accumulate following settling. Such dusts may explode in the presence of an appropriate ignition source.</p> <p><b>Do NOT cut, drill, grind or weld such containers.</b></p> <p>In addition ensure such activity is not performed near full, partially empty or empty containers without appropriate workplace safety authorisation or permit.</p>
Other information	<p>Store in original containers.</p> <p>Keep containers securely sealed as supplied.</p> <p>Store in a cool, well ventilated area.</p> <p>Keep dry.</p> <p>Store under cover and away from sunlight.</p> <p>Store away from flammable or combustible materials, debris and waste. Contact may cause fire or violent reaction.</p> <p>Store away from incompatible materials and foodstuff containers.</p> <p><b>DO NOT stack on wooden floors or pallets.</b></p> <p>Protect containers from physical damage.</p> <p>Check regularly for leaks.</p> <p>Observe manufacturer's storage and handling recommendations contained within this SDS.</p> <p>In addition, Goods of Class 5.1, packing group II should be:</p> <p>stored in piles so that</p> <ul style="list-style-type: none"> <li>the height of the pile does not exceed 1 metre</li> <li>the maximum quantity in a pile or building does not exceed 1000 tonnes unless the area is provided with automatic fire extinguishers</li> <li>the maximum height of a pile does not exceed 3 metres where the room is provided with automatic fire extinguishers or 2 meters if not.</li> <li>the minimum distance between piles is not less than 2 metres where the room is provided with automatic fire extinguishers or 3 meters if not.</li> <li>the minimum distance to walls is not less than 1 metre.</li> </ul>

## Conditions for safe storage, including any incompatibilities

Suitable container	<p><b>DO NOT repack.</b> Use containers supplied by manufacturer only.</p> <p>Packaging as recommended by manufacturer.</p>
Storage incompatibility	<p>Contact with acids produces toxic fumes</p> <p>Reacts with mild steel, galvanised steel / zinc producing hydrogen gas which may form an explosive mixture with air.</p> <p>Avoid any contamination of this material as it is very reactive and any contamination is potentially hazardous</p> <p>Avoid storage with reducing agents.</p> <p>Segregate from alcohol, water.</p> <p>Avoid strong bases.</p>

## SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

## Control parameters

## OCCUPATIONAL EXPOSURE LIMITS (OEL)

## INGREDIENT DATA

Not Available

## EMERGENCY LIMITS

Ingredient	Material name	TEEL-1	TEEL-2	TEEL-3
1-bromo-3-chloro-5,5-dimethylhydantoin	Bromo-3-chloro-5,5-dimethylhydantoin, 1-; (1-Bromo-3-chloro-5,5-dimethyl-2,4-imidazolidinedione)	4.2 mg/m3	46 mg/m3	280 mg/m3

Ingredient	Original IDLH	Revised IDLH
------------	---------------	--------------

Continued...

## Easy Dose Cartridge Large/Mini, BCM-X Tablets


1-bromo-3-chloro-5,5-dimethylhydantoin

Not Available

Not Available

## MATERIAL DATA

## Exposure controls

<p><b>Appropriate engineering controls</b></p>	<p>Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.</p> <p>The basic types of engineering controls are:</p> <p>Process controls which involve changing the way a job activity or process is done to reduce the risk.</p> <p>Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment. Ventilation can remove or dilute an air contaminant if designed properly. The design of a ventilation system must match the particular process and chemical or contaminant in use.</p> <p>Employers may need to use multiple types of controls to prevent employee overexposure.</p> <p>Local exhaust ventilation is required where solids are handled as powders or crystals; even when particulates are relatively large, a certain proportion will be powdered by mutual friction.</p> <p>If in spite of local exhaust an adverse concentration of the substance in air could occur, respiratory protection should be considered.</p> <p>Such protection might consist of:</p> <p>(a) particle dust respirators, if necessary, combined with an absorption cartridge;</p> <p>(b) filter respirators with absorption cartridge or canister of the right type;</p> <p>(c) fresh-air hoods or masks.</p> <p>Air contaminants generated in the workplace possess varying "escape" velocities which, in turn, determine the "capture velocities" of fresh circulating air required to effectively remove the contaminant.</p> <table border="1" data-bbox="359 757 1487 900"> <thead> <tr> <th>Type of Contaminant:</th> <th>Air Speed:</th> </tr> </thead> <tbody> <tr> <td>direct spray, spray painting in shallow booths, drum filling, conveyer loading, crusher dusts, gas discharge (active generation into zone of rapid air motion)</td> <td>1-2.5 m/s (200-500 f/min.)</td> </tr> <tr> <td>grinding, abrasive blasting, tumbling, high speed wheel generated dusts (released at high initial velocity into zone of very high rapid air motion).</td> <td>2.5-10 m/s (500-2000 f/min.)</td> </tr> </tbody> </table> <p>Within each range the appropriate value depends on:</p> <table border="1" data-bbox="359 958 1487 1124"> <thead> <tr> <th>Lower end of the range</th> <th>Upper end of the range</th> </tr> </thead> <tbody> <tr> <td>1: Room air currents minimal or favourable to capture</td> <td>1: Disturbing room air currents</td> </tr> <tr> <td>2: Contaminants of low toxicity or of nuisance value only.</td> <td>2: Contaminants of high toxicity</td> </tr> <tr> <td>3: Intermittent, low production.</td> <td>3: High production, heavy use</td> </tr> <tr> <td>4: Large hood or large air mass in motion</td> <td>4: Small hood-local control only</td> </tr> </tbody> </table> <p>Simple theory shows that air velocity falls rapidly with distance away from the opening of a simple extraction pipe. Velocity generally decreases with the square of distance from the extraction point (in simple cases). Therefore the air speed at the extraction point should be adjusted, accordingly, after reference to distance from the contaminating source. The air velocity at the extraction fan, for example, should be a minimum of 4-10 m/s (800-2000 f/min) for extraction of crusher dusts generated 2 metres distant from the extraction point. Other mechanical considerations, producing performance deficits within the extraction apparatus, make it essential that theoretical air velocities are multiplied by factors of 10 or more when extraction systems are installed or used.</p>	Type of Contaminant:	Air Speed:	direct spray, spray painting in shallow booths, drum filling, conveyer loading, crusher dusts, gas discharge (active generation into zone of rapid air motion)	1-2.5 m/s (200-500 f/min.)	grinding, abrasive blasting, tumbling, high speed wheel generated dusts (released at high initial velocity into zone of very high rapid air motion).	2.5-10 m/s (500-2000 f/min.)	Lower end of the range	Upper end of the range	1: Room air currents minimal or favourable to capture	1: Disturbing room air currents	2: Contaminants of low toxicity or of nuisance value only.	2: Contaminants of high toxicity	3: Intermittent, low production.	3: High production, heavy use	4: Large hood or large air mass in motion	4: Small hood-local control only
Type of Contaminant:	Air Speed:																
direct spray, spray painting in shallow booths, drum filling, conveyer loading, crusher dusts, gas discharge (active generation into zone of rapid air motion)	1-2.5 m/s (200-500 f/min.)																
grinding, abrasive blasting, tumbling, high speed wheel generated dusts (released at high initial velocity into zone of very high rapid air motion).	2.5-10 m/s (500-2000 f/min.)																
Lower end of the range	Upper end of the range																
1: Room air currents minimal or favourable to capture	1: Disturbing room air currents																
2: Contaminants of low toxicity or of nuisance value only.	2: Contaminants of high toxicity																
3: Intermittent, low production.	3: High production, heavy use																
4: Large hood or large air mass in motion	4: Small hood-local control only																
<p><b>Personal protection</b></p>																	
<p><b>Eye and face protection</b></p>	<p>Chemical goggles.</p> <p>Full face shield may be required for supplementary but never for primary protection of eyes.</p> <p>Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59], [AS/NZS 1336 or national equivalent]</p>																
<p><b>Skin protection</b></p>	<p>See Hand protection below</p>																
<p><b>Hands/feet protection</b></p>	<ul style="list-style-type: none"> <li>■ Wear chemical protective gloves, e.g. PVC.</li> <li>■ Wear safety footwear or safety gumboots, e.g. Rubber</li> </ul> <p><b>NOTE:</b></p> <ul style="list-style-type: none"> <li>■ The material may produce skin sensitisation in predisposed individuals. Care must be taken, when removing gloves and other protective equipment, to avoid all possible skin contact.</li> <li>■ Contaminated leather items, such as shoes, belts and watch-bands should be removed and destroyed.</li> </ul> <p>The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.</p> <p>The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and has to be observed when making a final choice.</p> <p>Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturizer is recommended.</p> <p>Suitability and durability of glove type is dependent on usage. Important factors in the selection of gloves include:</p> <ul style="list-style-type: none"> <li>- frequency and duration of contact,</li> <li>- chemical resistance of glove material,</li> <li>- glove thickness and</li> <li>- dexterity</li> </ul> <p>Select gloves tested to a relevant standard (e.g. Europe EN 374, US F739, AS/NZS 2161.1 or national equivalent).</p> <ul style="list-style-type: none"> <li>- When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time greater than 240 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended.</li> <li>- When only brief contact is expected, a glove with a protection class of 3 or higher (breakthrough time greater than 60 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended.</li> </ul>																

## Easy Dose Cartridge Large/Mini, BCM-X Tablets

	<ul style="list-style-type: none"> <li>Some glove polymer types are less affected by movement and this should be taken into account when considering gloves for long-term use.</li> <li>Contaminated gloves should be replaced.</li> </ul> <p>For general applications, gloves with a thickness typically greater than 0.35 mm, are recommended.</p> <p>It should be emphasised that glove thickness is not necessarily a good predictor of glove resistance to a specific chemical, as the permeation efficiency of the glove will be dependent on the exact composition of the glove material. Therefore, glove selection should also be based on consideration of the task requirements and knowledge of breakthrough times.</p> <p>Glove thickness may also vary depending on the glove manufacturer, the glove type and the glove model. Therefore, the manufacturers' technical data should always be taken into account to ensure selection of the most appropriate glove for the task.</p> <p>Note: Depending on the activity being conducted, gloves of varying thickness may be required for specific tasks. For example:</p> <ul style="list-style-type: none"> <li>Thinner gloves (down to 0.1 mm or less) may be required where a high degree of manual dexterity is needed. However, these gloves are only likely to give short duration protection and would normally be just for single use applications, then disposed of.</li> <li>Thicker gloves (up to 3 mm or more) may be required where there is a mechanical (as well as a chemical) risk i.e. where there is abrasion or puncture potential</li> </ul> <p>Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturiser is recommended.</p>
<b>Body protection</b>	See Other protection below
<b>Other protection</b>	<ul style="list-style-type: none"> <li>Overalls.</li> <li>PVC Apron.</li> <li>PVC protective suit may be required if exposure severe.</li> <li>Eyewash unit.</li> <li>Ensure there is ready access to a safety shower. <ul style="list-style-type: none"> <li>Some plastic personal protective equipment (PPE) (e.g. gloves, aprons, overshoes) are not recommended as they may produce static electricity.</li> <li>For large scale or continuous use wear tight-weave non-static clothing (no metallic fasteners, cuffs or pockets).</li> <li>Non sparking safety or conductive footwear should be considered. Conductive footwear describes a boot or shoe with a sole made from a conductive compound chemically bound to the bottom components, for permanent control to electrically ground the foot and shall dissipate static electricity from the body to reduce the possibility of ignition of volatile compounds. Electrical resistance must range between 0 to 500,000 ohms. Conductive shoes should be stored in lockers close to the room in which they are worn. Personnel who have been issued conductive footwear should not wear them from their place of work to their homes and return.</li> </ul> </li> </ul>
<b>Thermal hazards</b>	Not Available

**Respiratory protection**

Type AB-P Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

Where the concentration of gas/particulates in the breathing zone, approaches or exceeds the "Exposure Standard" (or ES), respiratory protection is required.

Degree of protection varies with both face-piece and Class of filter; the nature of protection varies with Type of filter.

Required Minimum Protection Factor	Half-Face Respirator	Full-Face Respirator	Powered Air Respirator
up to 10 x ES	AB-AUS P2	-	AB-PAPR-AUS / Class 1 P2
up to 50 x ES	-	AB-AUS / Class 1 P2	-
up to 100 x ES	-	AB-2 P2	AB-PAPR-2 P2 ^

^ - Full-face

A(All classes) = Organic vapours, B AUS or B1 = Acid gasses, B2 = Acid gas or hydrogen cyanide(HCN), B3 = Acid gas or hydrogen cyanide(HCN), E = Sulfur dioxide(SO<sub>2</sub>), G = Agricultural chemicals, K = Ammonia(NH<sub>3</sub>), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 degC)

- Respirators may be necessary when engineering and administrative controls do not adequately prevent exposures.
- The decision to use respiratory protection should be based on professional judgment that takes into account toxicity information, exposure measurement data, and frequency and likelihood of the worker's exposure - ensure users are not subject to high thermal loads which may result in heat stress or distress due to personal protective equipment (powered, positive flow, full face apparatus may be an option).
- Published occupational exposure limits, where they exist, will assist in determining the adequacy of the selected respiratory protection. These may be government mandated or vendor recommended.
- Certified respirators will be useful for protecting workers from inhalation of particulates when properly selected and fit tested as part of a complete respiratory protection program.
- Use approved positive flow mask if significant quantities of dust becomes airborne.
- Try to avoid creating dust conditions.

**SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES****Information on basic physical and chemical properties**

<b>Appearance</b>	Solid tablet.		
<b>Physical state</b>	Divided Solid	<b>Relative density (Water = 1)</b>	Not Available
<b>Odour</b>	Not Available	<b>Partition coefficient n-octanol / water</b>	Not Available
<b>Odour threshold</b>	Not Available	<b>Auto-ignition temperature (°C)</b>	Not Available
<b>pH (as supplied)</b>	Not Applicable	<b>Decomposition temperature</b>	Not Available
<b>Melting point /freezing point (°C)</b>	Not Available	<b>Viscosity (cSt)</b>	Not Applicable
<b>Initial boiling point and boiling range (°C)</b>	Not Applicable	<b>Molecular weight (g/mol)</b>	Not Applicable
<b>Flash point (°C)</b>	Not Available	<b>Taste</b>	Not Available
<b>Evaporation rate</b>	Not Available	<b>Explosive properties</b>	Not Available
<b>Flammability</b>	Not Available	<b>Oxidising properties</b>	Not Available



## Easy Dose Cartridge Large/Mini, BCM-X Tablets

Upper Explosive Limit (%)	Not Available	Surface Tension (dyn/cm or mN/m)	Not Applicable
Lower Explosive Limit (%)	Not Available	Volatile Component (%vol)	Negligible
Vapour pressure (kPa)	Negligible	Gas group	Not Available
Solubility in water (g/L)	Not Available	pH as a solution (1%)	Not Available
Vapour density (Air = 1)	Not Applicable	VOC g/L	Not Available

## SECTION 10 STABILITY AND REACTIVITY

Reactivity	See section 7
Chemical stability	Unstable in the presence of incompatible materials. Product is considered stable under normal handling conditions. Prolonged exposure to heat. Hazardous polymerisation will not occur.
Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7
Incompatible materials	See section 7
Hazardous decomposition products	See section 5

## SECTION 11 TOXICOLOGICAL INFORMATION

## Information on toxicological effects

Inhaled	<p>Inhalation of dusts, generated by the material, during the course of normal handling, may be harmful. Persons with impaired respiratory function, airway diseases and conditions such as emphysema or chronic bronchitis, may incur further disability if excessive concentrations of particulate are inhaled. If prior damage to the circulatory or nervous systems has occurred or if kidney damage has been sustained, proper screenings should be conducted on individuals who may be exposed to further risk if handling and use of the material result in excessive exposures.</p> <p>Chlorine vapour is extremely irritating to the upper respiratory tract and lungs Symptoms of exposure to chlorine include coughing, choking, breathing difficulty, chest pain, headache, vomiting, pulmonary oedema. Inhalation may cause lung congestion, bronchitis and loss of consciousness. Effects may be delayed. Delayed effects of exposure to chlorine vapour can include shortness of breath, violent headaches, pulmonary oedema and pneumonia. Earlier reports suggested that concentrations around 5 ppm chlorine caused respiratory complaints, corrosion of the teeth, inflammation of the mucous membranes of the nose and increased susceptibility to tuberculosis in chronically-exposed workers. Recent studies have not confirmed these findings. Concentrations too low to effect the lower respiratory tract may however irritate the eyes, nose and throat. Amongst 29 volunteers exposed at 0.5, 1 or 2 ppm chlorine for 4 to 8 hours the following responses were recorded: itching or burning of the nose, itching or burning of the throat, production of tears, urge to cough, runny nose, nausea, headache, general discomfort, dizziness, drowsiness and shortness of breath</p> <p>Acidic corrosives produce respiratory tract irritation with coughing, choking and mucous membrane damage. Symptoms of exposure may include dizziness, headache, nausea and weakness. In more severe exposures, pulmonary oedema may be evident either immediately or after a latent period of 5-72 hours. Symptoms of pulmonary oedema include a tightness in the chest, dyspnoea, frothy sputum and cyanosis. Examination may reveal hypotension, a weak and rapid pulse and moist rates. Death, due to anoxia, may occur several hours after onset of the pulmonary oedema.</p>	
Ingestion	<p>Accidental ingestion of the material may be harmful; animal experiments indicate that ingestion of less than 150 gram may be fatal or may produce serious damage to the health of the individual. The material can produce chemical burns within the oral cavity and gastrointestinal tract following ingestion.</p>	
Skin Contact	<p>The material can produce chemical burns following direct contact with the skin. Skin contact with acidic corrosives may result in pain and burns; these may be deep with distinct edges and may heal slowly with the formation of scar tissue. Solution of material in moisture on the skin, or perspiration, may markedly increase skin corrosion and accelerate tissue destruction Entry into the blood-stream through, for example, cuts, abrasions, puncture wounds or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.</p>	
Eye	<p>The material can produce chemical burns to the eye following direct contact. Vapours or mists may be extremely irritating. When applied to the eye(s) of animals, the material produces severe ocular lesions which are present twenty-four hours or more after instillation.</p>	
Chronic	<p>On the basis, primarily, of animal experiments, concern has been expressed that the material may produce carcinogenic or mutagenic effects; in respect of the available information, however, there presently exists inadequate data for making a satisfactory assessment. Practical experience shows that skin contact with the material is capable either of inducing a sensitisation reaction in a substantial number of individuals, and/or of producing a positive response in experimental animals.</p> <p>Long term exposure to high dust concentrations may cause changes in lung function (i.e. pneumoconiosis) caused by particles less than 0.5 micron penetrating and remaining in the lung. A prime symptom is breathlessness. Lung shadows show on X-ray. Reduced respiratory capacity may result from chronic low level exposure to chlorine gas. Chronic poisoning may result in coughing, severe chest pains, sore throat and haemoptysis (bloody sputum). Moderate to severe exposures over 3 years produced decreased lung capacity in a number of workers. Delayed effects can include shortness of breath, violent headaches, pulmonary oedema and pneumonia. Amongst chloralkali workers exposed to mean concentrations of 0.15 ppm for an average of 10.9 years a generalised pattern of fatigue (exposures of 0.5 ppm and above) and a modest increased incidence of anxiety and dizziness were recorded. Leukocytosis and a lower haematocrit showed some relation to exposure.</p>	
Easy Dose Cartridge Large/Mini, BCM-X Tablets	TOXICITY Not Available	IRRITATION Not Available
1-bromo-3-chloro-5,5-dimethylhydantoin	TOXICITY Dermal (rabbit) LD50: >2000 mg/kg <sup>[2]</sup> Oral (rat) LD50: 1390 mg/kg <sup>[2]</sup>	IRRITATION Primary Skin Irritation Index 6.1 Skin (rabbit): SEVERE **



## Easy Dose Cartridge Large/Mini, BCM-X Tablets

**Legend:** 1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2. \* Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances

The following information refers to contact allergens as a group and may not be specific to this product. Contact allergies quickly manifest themselves as contact eczema, more rarely as urticaria or Quincke's oedema. The pathogenesis of contact eczema involves a cell-mediated (T lymphocytes) immune reaction of the delayed type. Other allergic skin reactions, e.g. contact urticaria, involve antibody-mediated immune reactions. The significance of the contact allergen is not simply determined by its sensitisation potential: the distribution of the substance and the opportunities for contact with it are equally important. A weakly sensitising substance which is widely distributed can be a more important allergen than one with stronger sensitising potential with which few individuals come into contact. From a clinical point of view, substances are noteworthy if they produce an allergic test reaction in more than 1% of the persons tested.

No significant acute toxicological data identified in literature search.

Asthma-like symptoms may continue for months or even years after exposure to the material ceases. This may be due to a non-allergenic condition known as reactive airways dysfunction syndrome (RADS) which can occur following exposure to high levels of highly irritating compound. Key criteria for the diagnosis of RADS include the absence of preceding respiratory disease, in a non-atopic individual, with abrupt onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. A reversible airflow pattern, on spirometry, with the presence of moderate to severe bronchial hyperreactivity on methacholine challenge testing and the lack of minimal lymphocytic inflammation, without eosinophilia, have also been included in the criteria for diagnosis of RADS. RADS (or asthma) following an irritating inhalation is an infrequent disorder with rates related to the concentration of and duration of exposure to the irritating substance. Industrial bronchitis, on the other hand, is a disorder that occurs as result of exposure due to high concentrations of irritating substance (often particulate in nature) and is completely reversible after exposure ceases. The disorder is characterised by dyspnea, cough and mucus production.

for halohydantoin

**Acute toxicity:** The halohydantoin were shown to be of low toxicity by the oral and dermal routes of exposure. Acute toxicity by the inhalation route is more significant. The halohydantoin are significant eye and skin irritants. Dermal sensitization has also been observed for some of the halohydantoin compounds. Non-acute toxicity testing of halohydantoin and their breakdown products dimethylhydantoin and ethylmethylhydantoin (DMH/EMH) (including sub chronic, developmental, reproductive, and chronic toxicity testing) all show the presence of non-specific toxicity only at relatively high doses of the test chemical. The primary reason for developing generic data on DMH and EMH rather than the entire halohydantoin molecule is that these ring structures represent the persistent component of the halohydantoin. A secondary reason for evaluating the halohydantoin moieties is that the corrosive properties of the released halogens would limit the amount of chemical that could be administered to laboratory animals; thereby precluding a meaningful evaluation of the halohydantoin moieties

**Developmental and reproductive toxicity** data demonstrate no increase in susceptibility to the toxic effects of 5,5-dimethylhydantoin with the exception of one study, where foetal and litter effects (increased incidence of 27th presacral vertebrae) in rabbits were observed at a lower dose level than that which resulted in maternal toxicity (decreased body weight and food consumption during the dosing period) following treatment. The increase of 27th presacral vertebrae is a common variation found in rabbit developmental toxicity studies and was not considered an adverse effect. In a prenatal developmental toxicity study conducted in rabbits with 5-ethyl-5-methylhydantoin, there was no increased susceptibility of the fetuses observed.

Available metabolism data indicate that DMH and EMH are excreted unchanged in the rat. However, it is known that hydroxymethylhydantoin are formaldehyde releasers. The DMH portion of the molecule is assumed to behave the same as the hydantoin from the halohydantoin compounds. Any risk associated from the formaldehyde portion of the hydroxymethylhydantoin molecule must be addressed further.

**Carcinogenicity:** Cancer studies in rats and mice indicated no systemic effects other than decreased body weight and body weight gains in females (rats) and males (mice) and increased hyperplasia of submandibular lymph nodes in males (rats). No evidence of carcinogenicity of the test material was reported.

5,5-dimethylhydantoin is classified as 'not likely' to be a carcinogen based upon the negative evidence for carcinogenicity in both the rat and mouse studies as well as the negative evidence of mutagenicity.

**Mutagenicity:** The data on mutagenicity of dimethylhydantoin shows, in large part, negative responses in the studies conducted. Literature reports indicate a positive effect for 2 in vitro mammalian cytogenetic assays in Chinese Hamster Ovary cells

Positive sensitizer in guinea pig skin assay \*\* \* [Farm Chem. Handbook] \*\* Red for Halohydantoin

Acute Toxicity	✓	Carcinogenicity	✓
Skin Irritation/Corrosion	✓	Reproductivity	⊘
Serious Eye Damage/Irritation	✓	STOT - Single Exposure	⊘
Respiratory or Skin sensitisation	✓	STOT - Repeated Exposure	⊘
Mutagenicity	⊘	Aspiration Hazard	⊘

**Legend:** ✗ - Data available but does not fill the criteria for classification  
 ✓ - Data required to make classification available  
 ⊘ - Data Not Available to make classification

## SECTION 12 ECOLOGICAL INFORMATION

## Toxicity

Ingredient	Endpoint	Test Duration (hr)	Species	Value	Source
1-bromo-3-chloro- 5,5-dimethylhydantoin	LC50	96	Fish	0.14mg/L	4
1-bromo-3-chloro- 5,5-dimethylhydantoin	EC50	48	Crustacea	0.4mg/L	4
1-bromo-3-chloro- 5,5-dimethylhydantoin	EC50	96	Crustacea	0.1mg/L	4

**Legend:**

Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPIWIN Suite V3.12 - Aquatic Toxicity Data (Estimated) 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data

Very toxic to aquatic organisms.

Do NOT allow product to come in contact with surface waters or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwaters.

Wastes resulting from use of the product must be disposed of on site or at approved waste sites.

**DO NOT discharge into sewer or waterways.**

## Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
------------	-------------------------	------------------

Continued...

1-bromo-3-chloro-5,5-dimethylhydantoin	HIGH	HIGH
--	------	------

**Bioaccumulative potential**

Ingredient	Bioaccumulation
1-bromo-3-chloro-5,5-dimethylhydantoin	LOW (LogKOW = -0.9441)



**Mobility in soil**

Ingredient	Mobility
1-bromo-3-chloro-5,5-dimethylhydantoin	LOW (KOC = 23.14)

**SECTION 13 DISPOSAL CONSIDERATIONS****Waste treatment methods**

<b>Product / Packaging disposal</b>	<ul style="list-style-type: none"> <li>■ Containers may still present a chemical hazard/ danger when empty.</li> <li>■ Return to supplier for reuse/ recycling if possible.</li> </ul> <p>Otherwise:</p> <ul style="list-style-type: none"> <li>■ If container can not be cleaned sufficiently well to ensure that residuals do not remain or if the container cannot be used to store the same product, then puncture containers, to prevent re-use, and bury at an authorised landfill.</li> <li>■ Where possible retain label warnings and SDS and observe all notices pertaining to the product.</li> <li>■ <b>DO NOT allow wash water from cleaning or process equipment to enter drains.</b></li> <li>■ It may be necessary to collect all wash water for treatment before disposal.</li> <li>■ In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first.</li> <li>■ Where in doubt contact the responsible authority.</li> </ul> <p>Recycle wherever possible.</p> <ul style="list-style-type: none"> <li>■ Consult manufacturer for recycling options or consult local or regional waste management authority for disposal if no suitable treatment or disposal facility can be identified.</li> <li>■ Treat and neutralise at an approved treatment plant. Treatment should involve: Mixing or slurrying in water; Neutralisation with soda-lime or soda-ash followed by: burial in a land-fill specifically licenced to accept chemical and / or pharmaceutical wastes or Incineration in a licenced apparatus (after admixture with suitable combustible material)</li> <li>■ Decontaminate empty containers with 5% aqueous sodium hydroxide or soda ash, followed by water. Observe all label safeguards until containers are cleaned and destroyed.</li> </ul> <p>For small quantities of oxidising agent:</p> <ul style="list-style-type: none"> <li>■ Cautiously acidify a 3% solution to pH 2 with sulfuric acid.</li> <li>■ Gradually add a 50% excess of sodium bisulfite solution with stirring.</li> <li>■ Add a further 10% sodium bisulfite.</li> <li>■ If no further reaction occurs (as indicated by a rise in temperature) cautiously add more acid.</li> </ul>
-------------------------------------	---

**SECTION 14 TRANSPORT INFORMATION****Labels Required**

	
<b>Marine Pollutant</b>	
<b>HAZCHEM</b>	1W

**Land transport (ADG)**

<b>UN number</b>	3085				
<b>UN proper shipping name</b>	OXIDISING SOLID, CORROSIVE, N.O.S. (contains 1-bromo-3-chloro-5,5-dimethylhydantoin)				
<b>Transport hazard class(es)</b>	<table border="0"> <tr> <td style="padding-right: 5px;">Class</td> <td style="border-left: 1px dashed black; padding-left: 5px;">5.1</td> </tr> <tr> <td style="padding-right: 5px;">Subrisk</td> <td style="border-left: 1px dashed black; padding-left: 5px;">8</td> </tr> </table>	Class	5.1	Subrisk	8
Class	5.1				
Subrisk	8				
<b>Packing group</b>	II				
<b>Environmental hazard</b>	Not Applicable				
<b>Special precautions for user</b>	<table border="0"> <tr> <td style="padding-right: 5px;">Special provisions</td> <td style="border-left: 1px dashed black; padding-left: 5px;">274</td> </tr> <tr> <td style="padding-right: 5px;">Limited quantity</td> <td style="border-left: 1px dashed black; padding-left: 5px;">1 kg</td> </tr> </table>	Special provisions	274	Limited quantity	1 kg
Special provisions	274				
Limited quantity	1 kg				

**Air transport (ICAO-IATA / DGR)**

<b>UN number</b>	3085
<b>UN proper shipping name</b>	Oxidizing solid, corrosive, n.o.s. * (contains 1-bromo-3-chloro-5,5-dimethylhydantoin)

Transport hazard class(es)	ICAO/IATA Class	5.1
	ICAO / IATA Subrisk	8
	ERG Code	5C
Packing group	II	
Environmental hazard	Not Applicable	
Special precautions for user	Special provisions	A3
	Cargo Only Packing Instructions	562
	Cargo Only Maximum Qty / Pack	25 kg
	Passenger and Cargo Packing Instructions	558
	Passenger and Cargo Maximum Qty / Pack	5 kg
	Passenger and Cargo Limited Quantity Packing Instructions	Y544
	Passenger and Cargo Limited Maximum Qty / Pack	2.5 kg

**Sea transport (IMDG-Code / GGVSee)**

UN number	3085	
UN proper shipping name	OXIDIZING SOLID, CORROSIVE, N.O.S. (contains 1-bromo-3-chloro-5,5-dimethylhydantoin)	
Transport hazard class(es)	IMDG Class	5.1
	IMDG Subrisk	8
Packing group	II	
Environmental hazard	Marine Pollutant	
Special precautions for user	EMS Number	F-A, S-Q
	Special provisions	274
	Limited Quantities	1 kg

**Transport in bulk according to Annex II of MARPOL and the IBC code**

Not Applicable

**SECTION 15 REGULATORY INFORMATION****Safety, health and environmental regulations / legislation specific for the substance or mixture****1-BROMO-3-CHLORO-5,5-DIMETHYLHYDANTOIN(16079-88-2) IS FOUND ON THE FOLLOWING REGULATORY LISTS**

Australia Inventory of Chemical Substances (AICS)

National Inventory	Status
Australia - AICS	Y
Canada - DSL	Y
Canada - NDSL	N (1-bromo-3-chloro-5,5-dimethylhydantoin)
China - IECSC	Y
Europe - EINEC / ELINCS / NLP	Y
Japan - ENCS	Y
Korea - KECI	Y
New Zealand - NZIoC	Y
Philippines - PICCS	Y
USA - TSCA	Y
<b>Legend:</b>	Y = All ingredients are on the inventory N = Not determined or one or more ingredients are not on the inventory and are not exempt from listing(see specific ingredients in brackets)

**SECTION 16 OTHER INFORMATION****Other information****Ingredients with multiple cas numbers**

Name	CAS No
1-bromo-3-chloro-5,5-dimethylhydantoin	16079-88-2, 32718-18-6

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

A list of reference resources used to assist the committee may be found at:

[www.chemwatch.net](http://www.chemwatch.net)

Continued...

**Easy Dose Cartridge Large/Mini, BCM-X Tablets**

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

**Definitions and abbreviations**

PC—TWA: Permissible Concentration-Time Weighted Average PC  
—STEL: Permissible Concentration-Short Term Exposure Limit  
IARC: International Agency for Research on Cancer  
ACGIH: American Conference of Governmental Industrial Hygienists  
STEL: Short Term Exposure Limit  
TEEL: Temporary Emergency Exposure Limit  
IDLH: Immediately Dangerous to Life or Health Concentrations  
OSF: Odour Safety Factor  
NOAEL :No Observed Adverse Effect Level  
LOAEL: Lowest Observed Adverse Effect Level  
TLV: Threshold Limit Value  
LOD: Limit Of Detection  
OTV: Odour Threshold Value  
BCF: BioConcentration Factors  
BEI: Biological Exposure Index

This document is copyright.

Apart from any fair dealing for the purposes of private study, research, review or criticism, as permitted under the Copyright Act, no part may be reproduced by any process without written permission from CHEMWATCH.

TEL (+61 3) 9572 4700.