

## Safety Data Sheet

# KR-152P

### 1. IDENTIFICATION

<b>Product name</b>	KR-152P
<b>Description</b>	1-Bromo-3-chloro-5,5-dimethylhydantoin
<b>Product class</b>	Biocide
<b>Supplier address</b>	Suite 450 One North Shore Center 12 Federal Street Pittsburgh, PA 16212
<b>Telephone numbers</b>	
<u>Company Phone Number</u>	(412) 321-9800
<u>Emergency Telephone</u>	CHEMTREC 800-424-9200

### 2. HAZARDS IDENTIFICATION

<b>Hazard classification</b>	Oxidizing Solids, Category 1 Acute Toxicity: Oral, Category 4 Acute Toxicity: Inhalation, Category 3 Skin Sensitization, Category 1 Germ Cell Mutagenicity, Category 2 Aquatic Environment Toxicity: Acute, Category 1
<b>Signal word</b>	Danger
<b>Hazard statements</b>	May cause fire or explosion; strong oxidizer. Harmful if swallowed. Toxic if inhaled. May cause an allergic skin reaction. Suspected of causing genetic defects. Very toxic to aquatic life.

**Pictograms of related hazards**



**Precautionary statements**

Prevention

Keep away from heat/sparks/open flames/hot surfaces – No smoking.  
Keep away from combustible materials.  
Take any precaution to avoid mixing with combustibles.  
Wear protective gloves, protective clothing, eye protection, and face protection.  
Wear fire resistant clothing.

Wash skin thoroughly after handling.  
 Do not eat, drink, or smoke when using this product.  
 Avoid breathing fumes, mist, vapors, or spray.  
 Use only outdoors or in a well-ventilated area.  
 Contaminated work clothing should not be allowed out of the workplace.  
 Obtain special instructions before use.  
 Do not handle until all safety precautions have been read and understood.  
 Use personal protective equipment as required.  
 Avoid release to the environment.

Response

DO NOT induce vomiting.  
 Contact a POISON CENTER or health care provider.  
 Wash contaminated clothing before reuse.  
 Store in a dry place. Store in a closed container.  
 Specific measures:  
 IF ON CLOTHING: Rinse immediately contaminated clothing and skin with plenty of water before removing clothes. Immediately contact a POISON CENTER or health care provider.  
 In case of fire: Use water spray, foam, dry chemical, or carbon dioxide for extinction.  
 In case of fire: Evacuate area. Fight fire remotely due to the risk of explosion.  
 IF SWALLOWED: Immediately contact a POISON CENTER or health care provider.  
 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
 IF ON SKIN: Wash with soap and water.  
 If skin irritation or a rash occurs: Get medical attention.  
 IF exposed or concerned: Get medical attention.

Storage

Store in a closed container.  
 Store in a well-ventilated place. Keep cool.  
 Store locked up.

Disposal

Dispose of in accordance with local, state, and federal regulations.

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Chemical Name	CAS #	Weight %
1-Bromo-3-chloro-5,5-dimethylhydantoin (BCDMH)	16079-88-2	>98

**4. FIRST-AID MEASURES**

**Eye contact**

Flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally to ensure complete rinsing. Remove contact lenses if present and easy to do, then resume rinsing. Get medical attention if symptoms occur.

**Skin contact**

Remove contaminated clothing and wash the affected area with soap and water. Wash contaminated clothing before reuse.

<b>Ingestion</b>	If swallowed, DO NOT induce vomiting. Rinse mouth and get emergency medical attention. Do not give anything by mouth unless instructed to do so by a poison center or health care provider.
<b>Inhalation</b>	If inhaled, move victim to fresh air. Seek emergency medical attention if breathing is difficult; perform artificial respiration if breathing stops.
<b>Note to health care provider</b>	No specific information—treat symptomatically.

## 5. FIRE-FIGHTING MEASURES

<b>Suitable extinguishing media</b>	Flood with water
<b>Unsuitable extinguishing media</b>	Ammonium phosphate may accelerate decomposition; carbon dioxide and foam may be ineffective
<b>Protective equipment and precautions for firefighters</b>	Exercise caution when fighting any chemical fire. A self-contained breathing apparatus and protective clothing are essential. Use water to keep fire-exposed containers cool.
<b>Specific hazards</b>	Product is a strong oxidizer; fire or explosion hazards may result from
<b>Hazardous combustion products</b>	Hydrogen chloride, hydrogen bromine, nitrogen oxides, bromine, chlorine

## 6. ACCIDENTAL RELEASE MEASURES

<b>Personal precautions</b>	Evacuate the area of all non-essential personnel. Do not touch spilled material without proper protective equipment. Ventilate the area and mitigate further release if it is safe to do so. Avoid contact with eyes.
<b>Methods for clean-up</b>	
<u>Small spills</u>	Contain spill and soak up with an inert absorbent material and place residues in a properly labeled container for disposal. Avoid discharge into sewer or surface water.
<u>Large spills</u>	Contain spill using trenches, diking, or absorption with an inert material (i.e. sand or earth). Reclaim spilled material into recovery or salvage drums or tank truck for proper disposal.

## 7. HANDLING AND STORAGE

<b>Advice on safe handling</b>	Avoid contact with eyes, skin, and clothing. Avoid breathing vapor or mist. Wash hands thoroughly after handling.
<b>Storage conditions</b>	Store in a cool, dry, well-ventilated area away from incompatible materials. Keep containers closed when not in use.
<b>Suitable materials of construction</b>	No information available

Unsuitable materials of construction No information available

### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Eye/face protection** Chemical splash goggles

**Skin protection** Chemical-resistant gloves and body-covering clothing

**Respiratory protection** Observe published airborne exposure limits. NIOSH approved respirator should be used in accordance with OSHA respiratory protection requirements (29 CFR 1910.134).

**Engineering controls** Ground containers and equipment during transfer of substances.

**General hygiene considerations** Do not eat, drink, or smoke while handling this product.

Chemical Name	OSHA PEL	ACGIH TLV
1-Bromo-3-chloro-5,5-dimethylhydantoin (BCDMH)	None established	None established

### 9. PHYSICAL AND CHEMICAL PROPERTIES

pH	3.5 (0.1% solution)
Appearance	White to off white 1in, 24g tablet
Odor	Mild
Odor Threshold	No information available
Melting/freezing point	No information available
Initial boiling point/boiling range	No information available
Flash point	No information available
Evaporation rate	No information available
Flammability (solid, gas)	No information available
Upper/lower flammability or explosive limits	No information available
Vapor pressure	No information available
Vapor density	No information available
VOC content	No information available
Specific gravity	1.8-2.0
Solubility	0.22 mg/L [water]; 2.5g/100g [Benzene]
Partition coefficient n-octanol/water	No information available
Auto-ignition temperature	No information available
Decomposition temperature	320°F (160°C)
Viscosity	No information available

**10. STABILITY AND REACTIVITY**

<b>Chemical stability</b>	Stable under normal conditions of storage and handling.
<b>Hazardous polymerization</b>	Polymerization will not occur.
<b>Conditions to avoid</b>	High temperatures, incompatibilities
<b>Incompatibilities</b>	Strong reducing agents, organics, acids, bases, combustibles, moisture
<b>Hazardous decomposition products</b>	Dissociates in water to hypobromous acid, hypochlorous acid, and 5,5-dimethylhydantoin

**11. TOXICOLOGICAL INFORMATION**

**Likely routes of exposure** Skin, eyes, ingestion

**Acute toxicity****1-Bromo-3-chloro-5,5-dimethylhydantoin (BCDMH)**

Parameter	Result
LD <sub>50</sub> , Oral (rat)	1,850 mg/kg
LD <sub>50</sub> , Dermal (rabbit)	>2,000 mg/kg

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Parameter	Result
LD <sub>50</sub> , Oral (rat)	929 mg/kg
LC <sub>50</sub> , Inhalation (rat)	1.1 mg/L/4hr
Draize, Skin (rabbit)	Corrosive
Sensitization	Sensitizer
Ames Test	Mutagenic
Unscheduled DNA synthesis test, Oral (rat)	Not genotoxic

**Acute symptoms and effects**

<b>Eye</b>	Severe eye irritation with serious damage including, but not limited to, tissue destruction, corneal opacification, and temporary or permanent blindness.
<b>Skin</b>	Skin irritation with or without pain, burning, itching, redness, and swelling. Symptoms may be exacerbated by open wounds, excoriations, rashes, or other skin breaches. Allergic reaction may occur on re-exposure.
<b>Ingestion</b>	Gastrointestinal distress with or without nausea, vomiting, and diarrhea. May cause irritation or corrosion of the oral and esophageal mucosa.
<b>Inhalation</b>	Upper respiratory irritation with or without cough, watering of the eyes, and postnasal drip.
<b>Reproductive effects</b>	No information available
<b>Teratogenicity</b>	No information available

<b>Mutagenicity</b>	Potential to induce genetic mutation has been identified by laboratory testing.
<b>Embryotoxicity</b>	No information available
<b>Sensitization to product</b>	May cause allergic reaction or delayed hypersensitivity in susceptible individuals.
<b>Synergistic products</b>	No information available
<b>Carcinogenicity</b>	No components have been identified as carcinogenic by OSHA, NTP, or IARC.
<b>Chronic</b>	No information available

## 12. ECOLOGICAL INFORMATION

### Aquatic toxicity

#### Product

Parameter	Result
96 hr LC <sub>50</sub> , Bluegill sunfish	0.46 mg/L
96 hr LC <sub>50</sub> , Rainbow trout	0.4 mg/L
96 hr LC <sub>50</sub> , Eastern oyster	1.2 mg/L
96 hr LC <sub>50</sub> , Sheepshead Minnow	1.6 mg/L
96 hr LC <sub>50</sub> , Shrimp	1.9 mg/L
48 hr EC <sub>50</sub> , Daphnia magna	0.75 mg/L

<b>Persistence</b>	No information available
<b>Bioaccumulative potential</b>	No information available
<b>Mobility</b>	No information available

## 13. DISPOSAL CONSIDERATIONS

<b>Disposal</b>	Dispose of in accordance with federal, state, and local regulations.
<b>RCRA status</b>	As sold, discarded product would be considered a RCRA hazardous waste based on the corrosive characteristics. The EPA hazardous waste number is D002.

## 14. TRANSPORT INFORMATION

### US Department of Transportation (DOT)

<b>UN Number</b>	UN1479
<b>Proper shipping name</b>	Oxidizing solid, n.o.s. (contains bromo, chloro-5,5-dimethylhydantoin)
<b>Primary hazard class/division</b>	5.1
<b>Secondary hazard</b>	None
<b>Packing group</b>	II
<b>Label</b>	Oxidizer

**15. REGULATORY INFORMATION****OSHA Hazard Communication Status**

Oxidizing Solids, Category 1  
 Acute Toxicity: Oral, Category 4  
 Acute Toxicity: Inhalation, Category 3  
 Skin Sensitization, Category 1  
 Germ Cell Mutagenicity, Category 2  
 Aquatic Environment Toxicity: Acute, Category 1

**EPA Registration Number**

Not applicable

**TSCA**

The ingredients of this product are listed on the Toxic Substances Control Act (TSCA) Chemical Substances Inventory.

**CERCLA**EPA Hazardous Substances (40 CFR 302)

Chemical Name	Reportable Quantity (RQ)
1-Bromo-3-chloro-5,5-dimethylhydantoin (BCDMH)	None

SARA Title III (Sections 302, 311, 312, and 313)

## Section 302 Extremely Hazardous Substances (40 CFR 355)

Chemical Name	CAS#	RQ	TPQ
None			

## Section 311 and 312 Health and Physical Hazards

Immediate	Delayed	Fire	Pressure	Reactivity
Yes	Yes	Yes	No	No

## Section 313 Toxic Chemicals (40 CFR 372)

Chemical Name	CAS Number	Percent by Weight
None		

**16. OTHER INFORMATION****HMIS Ratings**

Health—3; Flammability—1; Reactivity—1

**NFPA Ratings**

Health—3; Flammability—1; Reactivity—1;  
 Special Hazard—None

**HMIS and NFPA Rating Scale**

Minimal—0; Slight—1; Moderate—2; Serious—3;  
 Severe—4

**SDS Issue Date**

April 30, 2015

**Revision Date**

Version 1

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