

MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Identification

Product Name: INDUBROM®
Chemical Family: Biocide
CAS Number: Blend

Company Identification

Kemira Chemicals, Inc.
Suite 200
245 TownPark Drive
Kennesaw, Georgia 30144 USA
800-347-1542 (For product information)
770-422-1250 (For emergencies)
1-800-424-9300 or 1-703-527-3887 (CHEMTREC)

2. COMPOSITION/INFORMATION ON INGREDIENTS

COMPONENT LISTING:

Chemical Name	Amount	CAS Number
BROMOCHLORO-5,5-DIMETHYLHYDANTOIN	60.0 %	126-06-7
1,3-DICHLORO-5,5-DIMETHYLHYDANTOIN	27.4 %	118-52-5
1,3-DICHLORO-5-ETHYL-5-METHYLHYDANTOIN	10.6 %	89415-87-2

This product contains hazardous materials as defined by the OSHA Hazard Communication Standard 29 CFR 1910.1200.

EXPOSURE GUIDELINES:

1,3-DICHLORO-5,5-DIMETHYLHYDANTOIN

OSHA PEL: 0.2 mg/m³
OSHA TWA: 0.2 mg/m³
ACGIH TWA: 0.2 mg/m³

MISCELLANEOUS:

Bromochloro-5,5-dimethylhydantoin (126-06-7): TWA/TLV 0.2 mg/m³ (Internal Standard).

1,3-Dichloro-5-ethyl-5-methylhydantoin (89415-87-2): TWA/TLV 0.2 mg/m³ (Internal Standard).

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW:

Oxidizer. May cause severe skin irritation. Can cause severe eye irritation or burns. Prolonged contact may

cause irreversible damage. May cause severe nose, throat, and lung irritation. Material is toxic to fish.

EYE:

Risk of serious damage to eyes, possibly irreversible. Causes severe irritation and burns.

SKIN:

A single, prolonged exposure is not likely to result in the material being absorbed through skin in harmful amounts. Causes irritation, possible burns on prolonged contact.

INHALATION:

Avoid breathing vapors or mists. Prolonged or excessive inhalation at high concentrations can be severely irritating to the lung with potential systemic absorption and tissue damage.

INGESTION:

Ingestion is not considered a potential route of exposure. Ingestion can cause irritation of the mouth, throat, and esophagus. Harmful or fatal if swallowed.

4. FIRST AID MEASURES

EYE CONTACT FIRST AID:

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation develops or persists.

SKIN CONTACT FIRST AID:

Remove contaminated clothing and shoes. Wash affected area immediately with large amounts of soap and water. Get medical attention if irritation develops or persists.

INHALATION FIRST AID:

Although this product is not known to cause respiratory problems, if breathing is difficult, remove to fresh air and provide oxygen. If not breathing, give artificial respiration. Get medical attention if cough or other symptoms develop.

INGESTION FIRST AID:

If swallowed, do not induce vomiting. Give water or milk to dilute. Never give anything by mouth to an unconscious person. Contact a physician.

NOTES TO PHYSICIAN:

All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred. Treat symptomatically.

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES

PMCC Flash Point: > 93.9 C (> 201.0 F)

Autoignition Temperature: N/A

FLAMMABLE LIMITS IN AIR

LEL: N/A

UEL: N/A

FLAMMABLE PROPERTIES:

Material is a strong oxidizer and corrosive. May ignite combustible materials and may product noxious gases. Airborne dusts of this product in an enclosed space and in the presence of an ignition source may constitute an explosion hazard.

EXTINGUISHING MEDIA:

Water, carbon dioxide, foam or dry powder.

FIRE & EXPLOSION HAZARDS:

No known unusual hazards in a fire/explosion situation.

FIRE FIGHTING INSTRUCTIONS:

As in any fire, wear self-contained breathing apparatus pressure-demand MSHA/NIOSH (approved or equivalent) and full protective gear. Containers can build up pressure if exposed to heat (fire). Dike and collect water used to fight fire. Contaminated extinguishing water must be disposed of in accordance with applicable regulations.

COMBUSTION PRODUCTS:

Products of combustion are toxic.

6. ACCIDENTAL RELEASE MEASURES

SAFEGUARDS (PERSONNEL):

Wear appropriate personal protective equipment. Stop the source of the leak or release. Clean up releases as soon as possible, observing precautions in Exposure Controls/Personal Protection. Contain liquid to prevent further contamination of soil, surface water or groundwater.

INITIAL CONTAINMENT:

Danger! Oxidizing and corrosive material. Contain spilled material. When spilled material comes in contact with water, self-contained breathing apparatus is preferred.

Carefully sweep up spilled material (avoid generating dust) and place in an appropriate container for disposal. Do not contaminate with oxidizable materials. Neutralize any residue with dilute, alkaline sodium bisulfite or thiosulfate solution; absorb with sand or vermiculite and place in a compatible container for disposal. If spilled material is wet, neutralize and proceed as stated above.

LARGE SPILLS PROCEDURE:

Contain spilled liquid with sand or earth. Avoid runoff into storm sewers and ditches which lead to waterways. Material is toxic to fish. Treat or dispose of waste material in accordance with all local, state/provincial, and national requirements.

SMALL SPILLS PROCEDURE:

Sweep up all material.

7. HANDLING AND STORAGE

RECOMMENDED STORAGE TEMPERATURE

Minimum: 7.2 C (45.0 F)

Maximum: 37.8 C (100.0 F)

HANDLING (PERSONNEL):

Follow all MSDS/label precautions even after container is emptied because they may retain product residues. Avoid contact with skin and eyes. Avoid breathing mists. Wash hands thoroughly after handling.

HANDLING (PHYSICAL ASPECTS):

Store in a secure area. Provide appropriate ventilation. Avoid generating dust.

STORAGE PRECAUTIONS:

Isolate from all organic material. Keep container tightly closed. Avoid extreme temperatures and direct sunlight.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS:

Good general ventilation should be sufficient to control airborne levels. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

EYE / FACE PROTECTION REQUIREMENTS:

Chemical goggles are recommended to avoid contact with eyes.

SKIN PROTECTION REQUIREMENTS:

Wear protective gloves to minimize skin contamination. Selection of specific items such as gloves, boots, apron or full-body suit will depend on operation.

RESPIRATORY PROTECTION REQUIREMENTS:

When there is potential for airborne exposures in excess of applicable limits, wear NIOSH/MSHA approved respiratory protection.

9. PHYSICAL AND CHEMICAL PROPERTIES

FORM:	Solid
COLOR:	Off-white briquettes
ODOR:	Pungent
SOLUBILITY IN WATER:	0.54 gms / 100 gms
BULK DENSITY:	60 lbs/ft ³
MELTING/FREEZING POINT:	248 - 298 F
EVAPORATION RATE:	< 1 (Butyl Acetate = 1)

10. STABILITY AND REACTIVITY

STABILITY:

This compound is stable at ambient conditions.

POLYMERIZATION:

Hazardous polymerization will not occur.

INCOMPATIBILITY WITH OTHER MATERIALS:

Avoid contact with acids and alkalis, high storage temperatures, moisture and readily oxidizable material.

DECOMPOSITION:

Toxic decomposition products may be formed. Decomposition may produce toxic vapors / fumes of chlorine, bromine, and oxides of carbon and nitrogen.

CONDITIONS TO AVOID:

Elevated temperatures. Decomposes at 329F (165C).

11. TOXICOLOGICAL INFORMATION

EYE EFFECTS:

Eye Irritation - rabbit: Severely irritating.

SKIN EFFECTS:

Skin Irritation - rabbit: Severely irritating.

ACUTE ORAL EFFECTS:

Oral LD50 (rat): 468 mg/kg.

12. ECOLOGICAL INFORMATION

No information available.

13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL:

Avoid disposal into waste water treatment facilities. Treat or dispose of waste material in accordance with all local, state/provincial, and national requirements.

EPA Hazardous Waste: NO.

CONTAMINATED MATERIALS:

Relative small quantities of product may be neutralized as described in Section 6.

CONTAINER DISPOSAL:

Uncleaned empty containers should be disposed of in the same manner as the contents.

14. TRANSPORT INFORMATION

PRODUCT LABEL:

INDUBROM®

D.O.T. SHIPPING NAME:

Oxidizing solid, n.o.s., (Bromochloro dimethylhydantoin), 5.1, UN1479, PGII

MISCELLANEOUS:

The listed Transportation Classification does not address regulatory variations due to changes in package size, mode of shipment or other regulatory descriptors.

15. REGULATORY INFORMATION

SARA 311 Categories:

Immediate (Acute) Health Effects: Yes
Delayed (Chronic) Health Effects: No
Fire Hazard: No
Sudden Release Of Pressure Hazard: No
Reactivity Hazard: Yes

REGULATORY LISTS SEARCHED:

01 = SARA 313	02 = SARA 302/304
03 = ACGIH TWA	04 = ACGIH Calc TLV
05 = CANADIAN WHMIS	06 = CA Proposition 65
07 = CERCLA 302.4	08 = ACGIH STEL
09 = OSHA PEL	10 = OSHA Ceiling

REGULATORY DISCLOSURES:

California Proposition 65 - Components present in this material which the State of California has found to cause cancer, birth defects or other reproductive harm are as follows:

Bromoform (75-25-2) 12 ppm (max concentration).

EEC Symbols and Indications of Danger:

Not Determined

WHMIS Hazard Symbols:

Class D-2(B) - Materials Causing Other Toxic Effects, Class E - Corrosive Material, Class F - Dangerously Reactive Material

Canadian Disclosure List

1,3-DICHLORO-5,5-DIMETHYLHYDANTOIN (118-52-5)

MISCELLANEOUS INFORMATION:

This material or all of its components are listed on the Inventory of Existing Chemical Substances under the Toxic Substance Control Act (TSCA).

This product is subject to regulation under the US Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) and is therefore exempt from U.S. Toxic Substance Control Act (TSCA) Inventory listing requirements.

This product is subject to regulation under the Canadian Pest Control Products Act (P.C.P. Act). Therefore, this product is excluded from the supplier labeling and material safety data sheet requirements as specified in Section 12 of the Hazardous Products Act.

16. OTHER INFORMATION

REASON FOR ISSUE: NEW MSDS FORMAT

PREPARED BY: HS&E GROUP
APPROVAL DATE: April 24, 2001
SUPERCEDES DATE: June 15, 2000
MSDS NUMBER: RSIB000007

HMIS Rating:

Health - 3
Flammability - 1
Reactivity - 1

NFPA Rating:

Health - 3
Flammability - 1
Reactivity - 1

REVISION STATEMENT:

Revised information in section(s): N/A.

ABBREVIATIONS USED IN THIS MSDS:

TLV - THRESHOLD LIMIT VALUE	TWA - Time Weighted Average
STEL - SHORT TERM EXPOSURE LIMIT	TPQ - Threshold Planning Quantity
RQ - REPORTABLE QUANTITY	PEL - Permissible Exposure Level
C - CEILING LIMIT	CAS - Chemical Abstract Service Number
NDA - NO DATA AVAILABLE	N/A - Not Applicable or Not Available

MSDS PREPARATORY STATEMENT:

Prepared according to the OSHA Hazard Communication Standard (29 CFR 1910.1200) and the ANSI MSDS Standard (Z400.1) by Kemira.

The information and recommendations contained in this Material Safety Data Sheet have been compiled from sources believed to be reliable and to represent the best opinion on the subject as of the date on this sheet. However, no warranty, guarantee or representation, express or implied, is made by Kemira as to the correctness or sufficiency of this information or to the results to be obtained from the use thereof.

END OF MSDS
