

## Material Safety Data Sheet

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Version 1.1

According to 91/155/EEC

Classified as Hazardous according to the criteria of EU Annex 1 and NOHSC.

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1 - Product and Company Information

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Product Name 1,3-DIBROMO-5,5-DIMETHYLHYDANTOIN, 98%  
Product Number 157902

Company Sigma-Aldrich Pty. Ltd.  
12 Anella Avenue  
Castle Hill NSW 2154

Technical Phone # +61 2 9841 0555 (1800 800 097)

Fax +61 2 9841 0500 (1800 800 096)

Emergency Phone # +44 8701906777 (1800 448 465)

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2 - Composition/Information on Ingredients

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Product Name	CAS #	EC no	Annex I Index Number
1,3-DIBROMO-5,5-DIMETHYLHYDANTOIN ~55% ACTIVE BROMINE	77-48-5	201-030-9	None

Formula C5H6Br2N2O2

Molecular Weight 285.93 AMU

Synonyms Dibromantin \* Dibromantine \*  
N,N'-Dibromodimethylhydantoin \*  
1,3-Dibromo-5,5-dimethyl-2,4-imidazolidinedione  
\* 2,4-Imidazolidinedione,  
1,3-dibromo-5,5-dimethyl- (9CI)

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3 - Hazards Identification

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## SPECIAL INDICATION OF HAZARDS TO HUMANS AND THE ENVIRONMENT

Contact with combustible material may cause fire. Harmful if swallowed. Causes severe burns. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

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4 - First Aid Measures

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## AFTER INHALATION

If inhaled, remove to fresh air. If breathing becomes difficult, call a physician.

## AFTER SKIN CONTACT

In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician.

## AFTER EYE CONTACT

In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

#### AFTER INGESTION

If swallowed, wash out mouth with water provided person is conscious. Call a physician.

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### 5 - Fire Fighting Measures

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#### EXTINGUISHING MEDIA

Suitable: Carbon dioxide, dry chemical powder, or appropriate foam.

#### SPECIAL RISKS

Specific Hazard(s): Emits toxic fumes under fire conditions. Contact with other material may cause fire. May accelerate combustion.

#### SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

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### 6 - Accidental Release Measures

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#### PERSONAL PRECAUTION PROCEDURES TO BE FOLLOWED IN CASE OF LEAK OR SPILL

Evacuate area.

#### PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

#### METHODS FOR CLEANING UP

Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

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### 7 - Handling and Storage

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#### HANDLING

Directions for Safe Handling: Do not breathe dust. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure.

#### STORAGE

Conditions of Storage: Keep tightly closed. Keep away from combustible materials, heat, sparks, and open flame.

SPECIAL REQUIREMENTS: Moisture sensitive.

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### 8 - Exposure Controls / Personal Protection

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#### ENGINEERING CONTROLS

Use only in a chemical fume hood. Safety shower and eye bath.

#### GENERAL HYGIENE MEASURES

Wash thoroughly after handling. Remove and wash contaminated clothing promptly. Discard contaminated shoes.

#### PERSONAL PROTECTIVE EQUIPMENT

Respiratory Protection: Government approved respirator.  
Hand Protection: Compatible chemical-resistant gloves.  
Eye Protection: Chemical safety goggles.

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### 9 - Physical and Chemical Properties

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Appearance                      Physical State: Solid  
                                    Color: Slightly yellow  
                                    Form: Powder

Property	Value	At Temperature or Pressure
pH	N/A	
BP/BP Range	N/A	
MP/MP Range	190 °C	
Flash Point	N/A	
Flammability	N/A	
Autoignition Temp	N/A	
Oxidizing Properties	N/A	
Explosive Properties	N/A	
Explosion Limits	N/A	
Vapor Pressure	N/A	
SG/Density	N/A	
Partition Coefficient	N/A	
Viscosity	N/A	
Vapor Density	N/A	
Saturated Vapor Conc.	N/A	
Evaporation Rate	N/A	
Bulk Density	N/A	
Decomposition Temp.	N/A	
Solvent Content	N/A	
Water Content	N/A	
Surface Tension	N/A	
Conductivity	N/A	
Miscellaneous Data	N/A	
Solubility	N/A	

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## 10 - Stability and Reactivity

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### STABILITY

Conditions of Instability: May decompose on exposure to moist air or water.

Materials to Avoid: Strong reducing agents, Strong bases.

### HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide, Nitrogen oxides, Hydrogen bromide gas.

### HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

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## 11 - Toxicological Information

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RTECS NUMBER: MU0686000

### ACUTE TOXICITY

LD50  
Oral  
Rat  
250 mg/kg

### SIGNS AND SYMPTOMS OF EXPOSURE

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin. Inhalation may result in spasm, inflammation and edema of the larynx and bronchi, chemical pneumonitis, and pulmonary edema. Symptoms of exposure may include burning sensation, coughing,

wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

#### ROUTE OF EXPOSURE

Skin Contact: Causes severe burns.

Skin Absorption: May be harmful if absorbed through the skin.

Eye Contact: Causes severe burns.

Inhalation: May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.

Ingestion: Harmful if swallowed.

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#### 12 - Ecological Information

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No data available.

#### ECOTOXICOLOGICAL EFFECTS

Test Type: EC50 Daphnia

Species: Daphnia magna

Time: 48 h

Value: 0.63 mg/l

Test Type: LC0 Fish

Species: Onchorhynchus mykiss (Rainbow trout)

Time: 96 h

Value: 0.16 mg/l

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#### 13 - Disposal Considerations

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#### SUBSTANCE DISPOSAL

Contact a licensed professional waste disposal service to dispose of this material. Observe all federal, state, and local environmental regulations.

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#### 14 - Transport Information

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#### RID/ADR

UN#: 1479

Class: 5.1

PG: II

Proper Shipping Name: Oxidizing solid, n.o.s.

#### IMDG

UN#: 1479

Class: 5.1

PG: II

Proper Shipping Name: Oxidizing solid, n.o.s.

Marine Pollutant: No

Severe Marine Pollutant: No

Technical Name: Required

#### IATA

UN#: 1479

Class: 5.1

PG: II

Proper Shipping Name: Oxidizing solid, n.o.s.

Inhalation Packing Group I: No

Technical Name: Required

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#### 15 - Regulatory Information

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CLASSIFICATION AND LABELING ACCORDING TO EU DIRECTIVES

INDICATION OF DANGER: O C N

Oxidizing. Corrosive. Dangerous for the environment.

R-PHRASES: 8 22 35 50/53

Contact with combustible material may cause fire. Harmful if swallowed. Causes severe burns. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S-PHRASES: 17 26 36/37/39 45 60 61

Keep away from combustible material. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing, gloves, and eye/face protection. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). This material and its container must be disposed of as hazardous waste. Avoid release to the environment. Refer to special instructions/safety data sheets.

SWITZERLAND

SWISS POISON CLASS: 3

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16 - Other Information

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WARRANTY

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2005 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.

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