

## SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Version 5.0 Revision Date 30.10.2012

Print Date 28.04.2014

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

#### 1.1 Product identifiers

Product name : 1,3-Dibromo-5,5-dimethylhydantoin

Product Number : 34140

Brand : Fluka

CAS-No. : 77-48-5

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

Identified uses : Laboratory chemicals, Manufacture of substances

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

Company : Sigma-Aldrich Company Ltd.  
The Old Brickyard  
NEW ROAD, GILLINGHAM  
Dorset  
SP8 4XT  
UNITED KINGDOM

Telephone : +44 (0)1747 833000

Fax : +44 (0)1747 833313

E-mail address : eurtechserv@sial.com

#### 1.4 Emergency telephone number

Emergency Phone # : +44 (0)1747 833100

### 2. HAZARDS IDENTIFICATION

#### 2.1 Classification of the substance or mixture

##### Classification according to Regulation (EC) No 1272/2008 [EU-GHS/CLP]

Oxidizing solids (Category 2)

Acute toxicity, Oral (Category 3)

Skin corrosion (Category 1A)

Acute aquatic toxicity (Category 1)

##### Classification according to EU Directives 67/548/EEC or 1999/45/EC

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.

#### 2.2 Label elements

##### Labelling according Regulation (EC) No 1272/2008 [CLP]

Pictogram



Signal word

Danger

Hazard statement(s)

H272

May intensify fire; oxidiser.

H301

Toxic if swallowed.

H314

Causes severe skin burns and eye damage.

H400

Very toxic to aquatic life.

Precautionary statement(s)

P220

Keep/Store away from clothing/ combustible materials.

|                                |  |
|--------------------------------|--|
| P273                           | Avoid release to the environment.  |
| P280                           | Wear protective gloves/ protective clothing/ eye protection/ face protection.  |
| P301 + P310                    | IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.   |
| P305 + P351 + P338             | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P310                           | Immediately call a POISON CENTER or doctor/ physician.   |
| Supplemental Hazard Statements | none   |

**According to European Directive 67/548/EEC as amended.**

Hazard symbol(s)



R-phrases(s)

|        |  |
|--------|--|
| R 8    | Contact with combustible material may cause fire.  |
| R22    | Harmful if swallowed.  |
| R35    | Causes severe burns.   |
| R50/53 | Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. |

S-phrases(s)

|           |   |
|-----------|---|
| S17       | Keep away from combustible material.  |
| S26       | In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.               |
| S36/37/39 | Wear suitable protective clothing, gloves and eye/face protection.  |
| S45       | In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). |
| S60       | This material and its container must be disposed of as hazardous waste.                                     |
| S61       | Avoid release to the environment. Refer to special instructions/ Safety data sheets.                        |

**2.3 Other hazards - none**

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### 3.1 Substances

|                  |   |
|------------------|---|
| Formula          | : C <sub>5</sub> H <sub>6</sub> Br <sub>2</sub> N <sub>2</sub> O <sub>2</sub> |
| Molecular Weight | : 285.92 g/mol  |

| Component                                | Concentration |
|--|---------------|
| <b>1,3-Dibromo-5,5-dimethylhydantoin</b> |               |
| CAS-No.                                  | 77-48-5       |
| EC-No.                                   | 201-030-9     |
|  | -             |

### 4. FIRST AID MEASURES

#### 4.1 Description of first aid measures

**General advice**

Consult a physician. Show this safety data sheet to the doctor in attendance.

**If inhaled**

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

**In case of skin contact**

Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

**In case of eye contact**

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

**If swallowed**

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

**4.2 Most important symptoms and effects, both acute and delayed**

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., Cough, Shortness of breath, Headache, Nausea

**4.3 Indication of any immediate medical attention and special treatment needed**

no data available

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**5. FIREFIGHTING MEASURES****5.1 Extinguishing media****Suitable extinguishing media**

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

**5.2 Special hazards arising from the substance or mixture**

Carbon oxides, nitrogen oxides (NOx), Hydrogen bromide gas

**5.3 Advice for firefighters**

Wear self contained breathing apparatus for fire fighting if necessary.

**5.4 Further information**

Use water spray to cool unopened containers.

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**6. ACCIDENTAL RELEASE MEASURES****6.1 Personal precautions, protective equipment and emergency procedures**

Wear respiratory protection. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

**6.2 Environmental precautions**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

**6.3 Methods and materials for containment and cleaning up**

Sweep up and shovel. Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). Keep in suitable, closed containers for disposal.

**6.4 Reference to other sections**

For disposal see section 13.

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**7. HANDLING AND STORAGE****7.1 Precautions for safe handling**

Avoid contact with skin and eyes. Avoid formation of dust and aerosols.

Provide appropriate exhaust ventilation at places where dust is formed.Keep away from sources of ignition - No smoking.Keep away from heat and sources of ignition.Normal measures for preventive fire protection.

**7.2 Conditions for safe storage, including any incompatibilities**

Store in cool place. Keep container tightly closed in a dry and well-ventilated place.

Moisture sensitive.

**7.3 Specific end uses**

no data available

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**8. EXPOSURE CONTROLS/PERSONAL PROTECTION****8.1 Control parameters****Components with workplace control parameters**

Contains no substances with occupational exposure limit values.

## 8.2 Exposure controls

### Appropriate engineering controls

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

### Personal protective equipment

#### Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

#### Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

#### Immersion protection

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: > 480 min

Material tested: Dermatrill® (Aldrich Z677272, Size M)

#### Splash protection

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: > 30 min

Material tested: Dermatrill® (Aldrich Z677272, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 873000, e-mail sales@kcl.de, test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an Industrial Hygienist familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

#### Body Protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

#### Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

- |  |                                      |
|--|--------------------------------------|
| a) Appearance                              | Form: powder<br>Colour: light yellow |
| b) Odour                                   | no data available                    |
| c) Odour Threshold                         | no data available                    |
| d) pH                                      | no data available                    |
| e) Melting point/freezing point            | Melting point/range: 197 - 199 °C    |
| f) Initial boiling point and boiling range | no data available                    |

|    |  |  |
|----|--|--|
| g) | Flash point                                  | no data available  |
| h) | Evaporation rate                             | no data available  |
| i) | Flammability (solid, gas)                    | no data available  |
| j) | Upper/lower flammability or explosive limits | no data available  |
| k) | Vapour pressure                              | no data available  |
| l) | Vapour density                               | no data available  |
| m) | Relative density                             | no data available  |
| n) | Water solubility                             | no data available  |
| o) | Partition coefficient: n-octanol/water       | no data available  |
| p) | Autoignition temperature                     | no data available  |
| q) | Decomposition temperature                    | no data available  |
| r) | Viscosity                                    | no data available  |
| s) | Explosive properties                         | no data available  |
| t) | Oxidizing properties                         | The substance or mixture is classified as oxidizing with the category 2. |

## 9.2 Other safety information

no data available

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## 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

no data available

### 10.2 Chemical stability

no data available

### 10.3 Possibility of hazardous reactions

no data available

### 10.4 Conditions to avoid

no data available

### 10.5 Incompatible materials

Strong reducing agents, Strong bases

### 10.6 Hazardous decomposition products

Other decomposition products - no data available

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## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

#### Acute toxicity

LD50 Oral - rat - 250 mg/kg

#### Skin corrosion/irritation

no data available

#### Serious eye damage/eye irritation

no data available

#### Respiratory or skin sensitization

no data available

**Germ cell mutagenicity**

no data available

**Carcinogenicity**

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

**Reproductive toxicity**

no data available

**Specific target organ toxicity - single exposure**

no data available

**Specific target organ toxicity - repeated exposure**

no data available

**Aspiration hazard**

no data available

**Potential health effects**

|                   |   |
|-------------------|---|
| <b>Inhalation</b> | May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract. |
| <b>Ingestion</b>  | Toxic if swallowed. Causes burns.   |
| <b>Skin</b>       | May be harmful if absorbed through skin. Causes skin burns.   |
| <b>Eyes</b>       | Causes eye burns.   |

**Signs and Symptoms of Exposure**

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., Cough, Shortness of breath, Headache, Nausea

**Additional Information**

RTECS: MU0686000

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**12. ECOLOGICAL INFORMATION****12.1 Toxicity**

|   |   |
|---|---|
| Toxicity to fish                                    | LC50 - Oncorhynchus mykiss (rainbow trout) - 0.16 mg/l - 96.0 h |
|   | LC0 - Oncorhynchus mykiss (rainbow trout) - 0.16 mg/l - 96.0 h  |
| Toxicity to daphnia and other aquatic invertebrates | EC50 - Daphnia magna (Water flea) - 0.63 mg/l - 48 h            |

**12.2 Persistence and degradability**

no data available

**12.3 Bioaccumulative potential**

no data available

**12.4 Mobility in soil**

no data available

**12.5 Results of PBT and vPvB assessment**

no data available

**12.6 Other adverse effects**

Very toxic to aquatic life.

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**13. DISPOSAL CONSIDERATIONS****13.1 Waste treatment methods****Product**

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

**Contaminated packaging**  
Dispose of as unused product.

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**14. TRANSPORT INFORMATION****14.1 UN number**

ADR/RID: 3087

IMDG: 3087

IATA: 3087

**14.2 UN proper shipping name**

ADR/RID: OXIDIZING SOLID, TOXIC, N.O.S. (1,3-Dibromo-5,5-dimethylhydantoin)

IMDG: OXIDIZING SOLID, TOXIC, N.O.S. (1,3-Dibromo-5,5-dimethylhydantoin)

IATA: Oxidizing solid, toxic, n.o.s. (1,3-Dibromo-5,5-dimethylhydantoin)

**14.3 Transport hazard class(es)**

ADR/RID: 5.1 (6.1)

IMDG: 5.1 (6.1)

IATA: 5.1 (6.1)

**14.4 Packaging group**

ADR/RID: II

IMDG: II

IATA: II

**14.5 Environmental hazards**

ADR/RID: no

IMDG Marine pollutant: no

IATA: no

**14.6 Special precautions for user**

no data available

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**15. REGULATORY INFORMATION**

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

no data available

**15.2 Chemical Safety Assessment**

no data available

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**16. OTHER INFORMATION****Further information**

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