

# SAFETY DATA SHEET

Revision Date 18-Dec-2025

Revision Number 5

This safety data sheet was created pursuant to the requirements of: US OSHA Hazard Communication Standard 2024 (29 CFR 1910.1200)

## 1. Identification

**Product Name** 5,5-Dimethylhydantoin

**Cat No. :** AC116310000; AC116310010; AC116310050; AC116310051;  
AC116312500

**CAS No** 77-71-4  
**Synonyms** 5,5-Dimethyl-2,4-Imidazolidinedione.

**Recommended Use** Laboratory chemicals.  
**Uses advised against** Food, drug, pesticide or biocidal product use.

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

#### Company

Fisher Scientific Company  
One Reagent Lane  
Fair Lawn, NJ 07410  
Tel: (201) 796-7100

Acros Organics  
One Reagent Lane  
Fair Lawn, NJ 07410

#### **Emergency Telephone Number**

For information **US** call: 001-800-227-6701 / **Europe** call: +32 14 57 52 11

Emergency Number **US**:001-201-796-7100 / **Europe**: +32 14 57 52 99

**CHEMTREC** Tel. No. **US**:001-800-424-9300 / **Europe**:001-703-527-3887

## 2. Hazard(s) identification

### Classification

Classification according to [US] OSHA (29 CFR 1910.1200, 2024)

This product is not considered hazardous by the US OSHA Hazard Communication Standard 2024 (29 CFR 1910.1200).

### Label Elements

None required

### Hazards not otherwise classified (HNOC)

None identified

### Hazards classified under paragraph (d)(1)(ii) of 1910.1200

No information available

### 3. Composition/information on Ingredients

| Component             | CAS No  | Weight % |
|-----------------------|---------|----------|
| 5,5-Dimethylhydantoin | 77-71-4 | <=100    |

### 4. First-aid measures

|  |  |
|--|--|
| <b>Eye Contact</b>                         | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.              |
| <b>Skin Contact</b>                        | Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get medical attention. |
| <b>Inhalation</b>                          | Remove from exposure, lie down. Remove to fresh air. If not breathing, give artificial respiration.                          |
| <b>Ingestion</b>                           | Clean mouth with water. Get medical attention.   |
| <b>Most important symptoms and effects</b> | No information available.  |
| <b>Notes to Physician</b>                  | Treat symptomatically  |

### 5. Fire-fighting measures

|   |  |
|---|--|
| <b>Suitable Extinguishing Media</b>     | Water spray. Carbon dioxide (CO <sub>2</sub> ). Dry chemical. Chemical foam. |
| <b>Unsuitable Extinguishing Media</b>   | No information available   |
| <b>Flash Point</b>                      | No information available   |
| <b>Method -</b>                         | No information available   |
| <b>Autoignition Temperature</b>         | No information available   |
| <b>Explosion Limits</b>                 |  |
| <b>Upper</b>                            | No data available  |
| <b>Lower</b>                            | No data available  |
| <b>Sensitivity to Mechanical Impact</b> | No information available   |
| <b>Sensitivity to Static Discharge</b>  | No information available   |

#### Specific Hazards Arising from the Chemical

Keep product and empty container away from heat and sources of ignition.

#### Hazardous Combustion Products

Nitrogen oxides (NO<sub>x</sub>). Carbon monoxide (CO). Carbon dioxide (CO<sub>2</sub>).

#### Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

#### NFPA

Health  
0

Flammability  
1

Instability  
0

Physical hazards  
N/A

### 6. Accidental release measures

|                             |   |
|-----------------------------|---|
| <b>Personal Precautions</b> | Ensure adequate ventilation. Use personal protective equipment as required. |
|-----------------------------|---|

**Environmental Precautions** See Section 12 for additional Ecological Information.

**Methods for Containment and Clean Up** Sweep up and shovel into suitable containers for disposal.

## 7. Handling and Storage

**Handling** Avoid contact with skin and eyes. Do not breathe dust.

**Storage.** Keep in a dry, cool and well-ventilated place. Keep container tightly closed. Incompatible Materials. Strong oxidizing agents.

## 8. Exposure controls / personal protection

**Exposure Guidelines** This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

**Engineering Measures** None under normal use conditions.

### Personal Protective Equipment

**Eye/face Protection** Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

**Skin and body protection** Wear appropriate protective gloves and clothing to prevent skin exposure.

**Respiratory Protection** No protective equipment is needed under normal use conditions.

**Recommended Filter type:** Particle filter.

**Hygiene Measures** Handle in accordance with good industrial hygiene and safety practice.

## 9. Physical and chemical properties

### Appearance

**Physical State**

Powder Solid

**Color**

Off-white

**Odor**

No information available

**Odor Threshold**

No information available

### Property

#### Values

**Melting Point/Range**

175 - 180 °C / 347 - 356 °F

**Softening Point**

No data available

**Boiling Point/Range**

No information available

**Flash Point**

No information available

**Flammability (liquid)**

Not applicable

**Flammability (solid,gas)**

No information available

**Explosion Limits**

No data available

**Autoignition Temperature**

No data available

**Decomposition Temperature**

No data available

**pH**

No information available

**Viscosity**

Not applicable

**Water Solubility**

Soluble

**Solubility in other solvents**

No information available

**Partition Coefficient (n-octanol/water)**

**Component**

log Pow

### Remarks

### • Method

**Method -** No information available  
Solid

Solid

|                            |                          |       |
|----------------------------|--------------------------|-------|
| 5,5-Dimethylhydantoin      | -0.475                   |       |
| Vapor Pressure             | No information available |       |
| Density / Specific Gravity | No data available        |       |
| Bulk Density               | No data available        |       |
| Vapor Density              | Not applicable           | Solid |
| Particle characteristics   | No data available        |       |

**Other Information**

|                   |                        |
|-------------------|------------------------|
| Molecular Formula | C5 H8 N2 O2            |
| Molecular Weight  | 128.13                 |
| Evaporation Rate  | Not applicable - Solid |

## 10. Stability and reactivity

|                                  |   |
|----------------------------------|---|
| Reactive Hazard                  | None known, based on information available  |
| Stability                        | Stable under normal conditions.   |
| Conditions to Avoid              | Incompatible products.  |
| Incompatible Materials           | Strong oxidizing agents   |
| Hazardous Decomposition Products | Nitrogen oxides (NO <sub>x</sub> ), Carbon monoxide (CO), Carbon dioxide (CO <sub>2</sub> ) |
| Hazardous Polymerization         | Hazardous polymerization does not occur.  |
| Hazardous Reactions              | None under normal processing.   |

## 11. Toxicological information

**Information on expected route of exposure**

|            |  |
|------------|--|
| Inhalation | Avoid breathing dust or spray mist.            |
| Ingestion  | No known effect based on information supplied. |
| Eyes       | Not an expected route of exposure.             |
| Skin       | No known effect based on information supplied. |

**Toxicology data for the components**

| Component             | LD50 Oral                 | LD50 Dermal                   | LC50 Inhalation               |
|-----------------------|---------------------------|-------------------------------|-------------------------------|
| 5,5-Dimethylhydantoin | LD50 = 7800 mg/kg ( Rat ) | LD50 > 20000 mg/kg ( Rabbit ) | LC50 > 14.68 mg/L ( Rat ) 1 h |

|  |                          |
|--|--------------------------|
| Toxicologically Synergistic Products   | No information available |
| (b) skin corrosion/irritation;         | No data available        |
| (c) serious eye damage/irritation;     | No data available        |
| (d) respiratory or skin sensitization; |                          |
| Respiratory                            | No data available        |
| Skin                                   | No data available        |
| (e) germ cell mutagenicity;            | No data available        |
| (f) carcinogenicity;                   |                          |

The table below indicates whether each agency has listed any ingredient as a carcinogen

| Component             | CAS No  | IARC       | NTP        | ACGIH      | OSHA       | Mexico     |
|-----------------------|---------|------------|------------|------------|------------|------------|
| 5,5-Dimethylhydantoin | 77-71-4 | Not listed | Not listed | Not listed | Not listed | Not listed |

(g) reproductive toxicity; No data available

(h) STOT-single exposure; No data available

(i) STOT-repeated exposure; No data available

Target Organs No information available.

(j) aspiration hazard; Not applicable  
Solid

Other Adverse Effects The toxicological properties have not been fully investigated.

Symptoms / effects, both acute and delayed No information available.

Other Adverse Effects The toxicological properties have not been fully investigated.

Endocrine Disrupting Properties This product does not contain any known or suspected endocrine disruptors.

## 12. Ecological information

### Ecotoxicity

Do not empty into drains.

| Component             | Freshwater Algae | Freshwater Fish  | Microtox   | Water Flea |
|-----------------------|------------------|--|------------|------------|
| 5,5-Dimethylhydantoin | Not listed       | LC50: 14600 - 18500 mg/L,<br>96h flow-through<br>(Pimephales promelas) | Not listed | Not listed |

Persistence and Degradability Soluble in water Persistence is unlikely based on information available.

Bioaccumulation/ Accumulation No information available.

Mobility Will likely be mobile in the environment due to its water solubility.

| Component             | log Pow |
|-----------------------|---------|
| 5,5-Dimethylhydantoin | -0.475  |

## 13. Disposal considerations

**Waste Disposal Methods** Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

## 14. Transport information

**DOT** Not regulated  
**TDG** Not regulated  
**IATA** Not regulated  
**IMDG/IMO** Not regulated

## 15. Regulatory Information

### United States of America Inventory

| Component             | CAS No  | TSCA | TSCA Inventory notification -<br>Active-Inactive | TSCA - EPA Regulatory<br>Flags |
|-----------------------|---------|------|--|--------------------------------|
| 5,5-Dimethylhydantoin | 77-71-4 | X    | ACTIVE   | -                              |

#### Legend:

**TSCA** US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

X - Listed

'-' - Not Listed

#### TSCA - Per 40 CFR 751, Regulation of Certain Chemical Substances & Mixtures, Under TSCA Section 6(h) (PBT)

Not applicable

#### TSCA 12(b) - Notices of Export

Not applicable

### International Inventories

Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), China (IECSC), Korea (KECL).

| Component             | CAS No  | DSL | NDSL | EINECS    | PICCS | ENCS | ISHL | AICS | IECSC | KECL     |
|-----------------------|---------|-----|------|-----------|-------|------|------|------|-------|----------|
| 5,5-Dimethylhydantoin | 77-71-4 | X   | -    | 201-051-3 | X     | X    | X    | X    | X     | KE-11496 |

**KECL** - NIER number or KE number (<http://ncis.nier.go.kr/en/main.do>)

### U.S. Federal Regulations

#### SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

#### SARA 311/312 Hazard Categories

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

#### CWA (Clean Water Act)

Not applicable

#### Clean Air Act

Not applicable

#### OSHA - Occupational Safety and Health Administration

Not applicable

#### CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

#### California Proposition 65

This product does not contain any Proposition 65 chemicals.

#### U.S. State Right-to-Know Regulations

Not applicable

#### U.S. Department of Transportation

Reportable Quantity (RQ): N  
DOT Marine Pollutant N  
DOT Severe Marine Pollutant N

**U.S. Department of Homeland Security** This product does not contain any DHS chemicals.

#### Other International Regulations

**Mexico - Grade** No information available

**Authorisation/Restrictions according to EU REACH** Not applicable

| Component             | CAS No  | REACH (1907/2006) - Annex XIV - Substances Subject to Authorization | REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances | REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC) |
|-----------------------|---------|---|---|---|
| 5,5-Dimethylhydantoin | 77-71-4 | -   | -   | -   |

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

| Component             | CAS No  | OECD HPV | Persistent Organic Pollutant | Ozone Depletion Potential | Restriction of Hazardous Substances (RoHS) |
|-----------------------|---------|----------|------------------------------|---------------------------|--|
| 5,5-Dimethylhydantoin | 77-71-4 | Listed   | Not applicable               | Not applicable            | Not applicable                             |

#### Contains component(s) that meet a 'definition' of per & poly fluoroalkyl substance (PFAS)?

Not applicable

#### Other International Regulations

| Component             | CAS No  | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements | Rotterdam Convention (PIC) | Basel Convention (Hazardous Waste) |
|-----------------------|---------|---|--|----------------------------|------------------------------------|
| 5,5-Dimethylhydantoin | 77-71-4 | Not applicable  | Not applicable   | Not applicable             | Not applicable                     |

## 16. Other Information

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**Revision Summary** Updated to the U.S. Department of Labor's Occupational Safety and Health Administration (OSHA) which published its Final Rule in the Federal Register revising the Hazard Communication Standard (HCS/HazCom), 29 CFR 1910.1200 (2024) (HCS §1910.1200, 2024), May 20, 2024, effective July 19, 2024.

#### Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other

materials or in any process, unless specified in the text

**End of SDS**