

**Hydantoin**Version number: GHS 2.0  
Replaces version of: 2019-02-28 (GHS 1)

Revision: 2019-03-01

**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifier**

Identification of the substance	<b>Hydantoin</b>
Registration number (REACH)	this information is not available
CAS number	461-72-3
Alternative name(s)	imidazolidine-2,4-dione
Article number	A0004757

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

Relevant identified uses	General use
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**1.3 Details of the supplier of the safety data sheet**

Chemos GmbH & Co. KG  
Sonnenring 7  
84032 Altdorf  
Germany

Telephone: +49 871-966346-0  
Telefax: +49 871-966346-13  
e-mail: chemos@chemos.de  
Website: <http://www.chemos.de/>

e-mail (competent person) chemos@chemos.de

**1.4 Emergency telephone number**

Emergency information service  
This number is only available during the following office hours: Mon - Thu 08:00 AM - 05:00 PM, Fri 08:00 AM - 12:00 PM

**SECTION 2: Hazards identification****2.1 Classification of the substance or mixture**

Classification according to Regulation (EC) No 1272/2008 (CLP)  
This substance does not meet the criteria for classification in accordance with Regulation No 1272/2008/EC.

**2.2 Label elements**

Labelling according to Regulation (EC) No 1272/2008 (CLP)  
not required

**2.3 Other hazards**

Results of PBT and vPvB assessment  
According to the results of its assessment, this substance is not a PBT or a vPvB.

**Hydantoin**Version number: GHS 2.0  
Replaces version of: 2019-02-28 (GHS 1)

Revision: 2019-03-01

**SECTION 3: Composition/information on ingredients****3.1 Substances**

Name of substance	Hydantoin
Identifiers	
CAS No	461-72-3
EC No	207-313-3
Molecular formula	C3H4N2O2
Molar mass	100.1 g/mol

**SECTION 4: First aid measures****4.1 Description of first aid measures**

## General notes

Do not leave affected person unattended. Remove victim out of the danger area. Keep affected person warm, still and covered. Take off immediately all contaminated clothing. In all cases of doubt, or when symptoms persist, seek medical advice. In case of unconsciousness place person in the recovery position. Never give anything by mouth.

## Following inhalation

If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. Provide fresh air.

## Following skin contact

Brush off loose particles from skin. Rinse skin with water/shower.

## Following eye contact

Remove contact lenses, if present and easy to do. Continue rinsing. Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart.

## Following ingestion

Rinse mouth with water (only if the person is conscious). Do NOT induce vomiting.

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

Symptoms and effects are not known to date.

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

none

**SECTION 5: Firefighting measures****5.1 Extinguishing media**

## Suitable extinguishing media

Water, Foam, ABC-powder

## Unsuitable extinguishing media

Water jet

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

Deposited combustible dust has considerable explosion potential.

## Hazardous combustion products

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

## Hydantoin

Version number: GHS 2.0  
Replaces version of: 2019-02-28 (GHS 1)

Revision: 2019-03-01

### 5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Co-ordinate firefighting measures to the fire surroundings. Do not allow firefighting water to enter drains or water courses. Collect contaminated firefighting water separately. Fight fire with normal precautions from a reasonable distance.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Remove persons to safety.

For emergency responders

Wear breathing apparatus if exposed to vapours/dust/spray/gases.

### 6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it.

### 6.3 Methods and material for containment and cleaning up

Advices on how to contain a spill

Covering of drains, Take up mechanically

Advices on how to clean up a spill

Take up mechanically.

Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

### 6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Recommendations

- Measures to prevent fire as well as aerosol and dust generation

Use local and general ventilation. Take precautionary measures against static discharge. Use only in well-ventilated areas. Ground/bond container and receiving equipment.

- Specific notes/details

Dust deposits may accumulate on all deposition surfaces in a technical room. The product in the delivered form is not dust explosion capable; the enrichment of fine dust however leads to the danger of dust explosion.

Advice on general occupational hygiene

Wash hands after use. Do not eat, drink and smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas. Never keep food or drink in the vicinity of chemicals. Never place chemicals in containers that are normally used for food or drink. Keep away from food, drink and animal feedingstuffs.

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

Managing of associated risks

- Explosive atmospheres

Removal of dust deposits.

- Ventilation requirements

Use local and general ventilation.

## Hydantoin

Version number: GHS 2.0  
Replaces version of: 2019-02-28 (GHS 1)

Revision: 2019-03-01

### 7.3 Specific end use(s)

See section 16 for a general overview.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

Occupational exposure limit values (Workplace Exposure Limits)											
Country	Name of agent	CAS No	Identifier	TWA [ppm]	TWA [mg/m <sup>3</sup> ]	STEL [ppm]	STEL [mg/m <sup>3</sup> ]	Ceiling-C [ppm]	Ceiling-C [mg/m <sup>3</sup> ]	Notation	Source
GB	dust		WEL		10					i	EH40/2005
GB	dust		WEL		4					r	EH40/2005

#### Notation

Ceiling-C	ceiling value is a limit value above which exposure should not occur
i	inhalable fraction
r	respirable fraction
STEL	short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)
TWA	time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified)

### 8.2 Exposure controls

Appropriate engineering controls

General ventilation.

Individual protection measures (personal protective equipment)

Eye/face protection

Wear eye/face protection.

Skin protection

- Hand protection

Wear protective gloves.

- Other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended. Wash hands thoroughly after handling.

Respiratory protection

Particulate filter device (EN 143).

Environmental exposure controls

Use appropriate container to avoid environmental contamination. Keep away from drains, surface and ground water.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

#### Appearance

## Hydantoin

Version number: GHS 2.0  
Replaces version of: 2019-02-28 (GHS 1)

Revision: 2019-03-01

Physical state	solid (powder, crystalline)
Colour	white
Odour	characteristic

### Other safety parameters

pH (value)	not applicable
Melting point/freezing point	220 °C
Initial boiling point and boiling range	not determined
Flash point	not applicable
Evaporation rate	not determined
Flammability (solid, gas)	this material is combustible, but will not ignite readily
Explosion limits of dust clouds	not determined
Vapour pressure	0 Pa at 25 °C
Density	1.669 g/cm <sup>3</sup> at -83.15 °C
Vapour density	this information is not available
Solubility(ies)	not determined

### Partition coefficient

- n-octanol/water (log KOW)	-1.69 (ECHA)
Auto-ignition temperature	not determined
Viscosity	not relevant (solid matter)
Explosive properties	none
Oxidising properties	none

### 9.2 Other information

Solid content	100 %
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## Hydantoin

Version number: GHS 2.0  
Replaces version of: 2019-02-28 (GHS 1)

Revision: 2019-03-01

### SECTION 10: Stability and reactivity

#### 10.1 Reactivity

Concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials".

#### 10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

#### 10.3 Possibility of hazardous reactions

No known hazardous reactions.

#### 10.4 Conditions to avoid

There are no specific conditions known which have to be avoided.

##### Hints to prevent fire or explosion

The product in the delivered form is not dust explosion capable; the enrichment of fine dust however leads to the danger of dust explosion.

#### 10.5 Incompatible materials

Oxidisers

#### 10.6 Hazardous decomposition products

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. Hazardous combustion products: see section 5.

### SECTION 11: Toxicological information

#### 11.1 Information on toxicological effects

##### Classification according to GHS (1272/2008/EC, CLP)

This substance does not meet the criteria for classification in accordance with Regulation No 1272/2008/EC.

##### Acute toxicity

Shall not be classified as acutely toxic.

##### Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

##### Serious eye damage/eye irritation

Shall not be classified as seriously damaging to the eye or eye irritant.

##### Respiratory or skin sensitisation

Shall not be classified as a respiratory or skin sensitiser.

##### Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

##### Carcinogenicity

Shall not be classified as carcinogenic.

##### Reproductive toxicity

Shall not be classified as a reproductive toxicant.

##### Specific target organ toxicity - single exposure

Shall not be classified as a specific target organ toxicant (single exposure).

##### Specific target organ toxicity - repeated exposure

Shall not be classified as a specific target organ toxicant (repeated exposure).

## Hydantoin

Version number: GHS 2.0  
Replaces version of: 2019-02-28 (GHS 1)

Revision: 2019-03-01

Aspiration hazard  
Shall not be classified as presenting an aspiration hazard.

### SECTION 12: Ecological information

#### 12.1 Toxicity

Shall not be classified as hazardous to the aquatic environment.

#### 12.2 Persistence and degradability

Data are not available.

#### 12.3 Bioaccumulative potential

Data are not available.

n-octanol/water (log KOW)	-1.69 (ECHA)
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#### 12.4 Mobility in soil

Data are not available.

#### 12.5 Results of PBT and vPvB assessment

Data are not available.

#### 12.6 Other adverse effects

Data are not available.

### SECTION 13: Disposal considerations

#### 13.1 Waste treatment methods

Sewage disposal-relevant information

Do not empty into drains. Avoid release to the environment. Refer to special instructions/safety data sheets.

Waste treatment of containers/packagings

Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself.

#### Remarks

Please consider the relevant national or regional provisions. Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

### SECTION 14: Transport information

<b>14.1 UN number</b>	Not subject to transport regulations
<b>14.2 UN proper shipping name</b>	not relevant
<b>14.3 Transport hazard class(es)</b>	none
<b>14.4 Packing group</b>	not relevant
<b>14.5 Environmental hazards</b>	non-environmentally hazardous acc. to the dangerous goods regulations
<b>14.6 Special precautions for user</b>	There is no additional information.
<b>14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code</b>	The cargo is not intended to be carried in bulk.

## Hydantoin

 Version number: GHS 2.0  
 Replaces version of: 2019-02-28 (GHS 1)

Revision: 2019-03-01

### Information for each of the UN Model Regulations

#### Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN)

Not subject to ADR, RID and ADN.

#### International Maritime Dangerous Goods Code (IMDG)

Not subject to IMDG.

#### International Civil Aviation Organization (ICAO-IATA/DGR)

Not subject to ICAO-IATA.

### SECTION 15: Regulatory information

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

#### 15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this substance.

### SECTION 16: Other information

#### Indication of changes (revised safety data sheet)

Section	Former entry (text/value)	Actual entry (text/value)	Safety-relevant
4.1	Following skin contact: Wash with plenty of soap and water.	Following skin contact: Brush off loose particles from skin. Rinse skin with water/shower.	yes
5.2	Special hazards arising from the substance or mixture	Special hazards arising from the substance or mixture: Deposited combustible dust has considerable explosion potential.	yes
7.1	- Measures to prevent fire as well as aerosol and dust generation: Use local and general ventilation. Use only in well-ventilated areas. Ground/bond container and receiving equipment.	- Measures to prevent fire as well as aerosol and dust generation: Use local and general ventilation. Take precautionary measures against static discharge. Use only in well-ventilated areas. Ground/bond container and receiving equipment.	yes
7.2	- Packaging compatibilities: Only packagings which are approved (e.g. acc. to ADR) may be used.		yes
7.2		- Ventilation requirements: Use local and general ventilation.	yes
8.1	Control parameters: This information is not available.	Control parameters	yes
8.1		Occupational exposure limit values (Workplace Exposure Limits): change in the listing (table)	yes
8.2	Respiratory protection: In case of inadequate ventilation wear respiratory protection.	Respiratory protection: Particulate filter device (EN 143).	yes
9.2	Solvent content: 100 %		yes



**Hydantoin**

Version number: GHS 2.0  
Replaces version of: 2019-02-28 (GHS 1)

Revision: 2019-03-01

Section	Former entry (text/value)	Actual entry (text/value)	Safety-relevant
13.1	Waste treatment of containers/packagings: It is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used. Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself.	Waste treatment of containers/packagings: Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself.	yes
14.1	UN number	UN number: Not subject to transport regulations	yes
14.6	Special precautions for user: Provisions for dangerous goods (ADR) should be complied within the premises.	Special precautions for user: There is no additional information.	yes
14.7		Information for each of the UN Model Regulations	yes
14.7		Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN): Not subject to ADR, RID and ADN.	yes
14.7		International Maritime Dangerous Goods Code (IMDG): Not subject to IMDG.	yes
14.7		International Civil Aviation Organization (ICAO-IATA/DGR): Not subject to ICAO-IATA.	yes
15.1	Relevant provisions of the European Union (EU)		yes
15.1	Deco-Paint Directive (2004/42/EC)		yes
15.1	VOC content: 100 %		yes
15.1	Directive on industrial emissions (VOCs, 2010/75/EU)		yes
15.1	VOC content: 100 %		yes
16		Abbreviations and acronyms: change in the listing (table)	yes

**Abbreviations and acronyms**

Abbr.	Descriptions of used abbreviations
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)
ADR	Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
Ceiling-C	Ceiling value
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
DGR	Dangerous Goods Regulations (see IATA/DGR)
EC No	The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union)
EH40/2005	EH40/2005 Workplace exposure limits ( <a href="http://www.nationalarchives.gov.uk/doc/open-government-licence/">http://www.nationalarchives.gov.uk/doc/open-government-licence/</a> )
EINECS	European Inventory of Existing Commercial Chemical Substances

**Hydantoin**

Version number: GHS 2.0  
Replaces version of: 2019-02-28 (GHS 1)

Revision: 2019-03-01

Abbr.	Descriptions of used abbreviations
ELINCS	European List of Notified Chemical Substances
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods Code
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
NLP	No-Longer Polymer
PBT	Persistent, Bioaccumulative and Toxic
ppm	Parts per million
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
STEL	Short-term exposure limit
TWA	Time-weighted average
vPvB	Very Persistent and very Bioaccumulative
WEL	Workplace exposure limit

**Key literature references and sources for data**

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures. Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU.

Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

**Disclaimer**

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.