

5,5-Diphenyl Hydantoin: sc-210385



The Power to Question

MATERIAL SAFETY DATA SHEET

1 Identification of substance:

Product Name: 5,5-Diphenyl Hydantoin
Catalog Number: sc-210385
Supplier: Santa Cruz Biotechnology, Inc.
2145 Delaware Avenue
Santa Cruz, California 95060
800.457.3801 or 831.457.3800
Emergency: ChemWatch
Within the US & Canada: 877-715-9305
Outside the US & Canada: +800 2436 2255
(1-800-CHEMCALL) or call +613 9573 3112

2 Hazard(s) identification

Classification of the substance or mixture
Classification according to Regulation (EC) No 1272/2008



GHS08 Health hazard

Carc. 1A H350 May cause cancer.
Repr. 1A H360 May damage fertility or the unborn child.



GHS07

Skin Sens. 1 H317 May cause an allergic skin reaction.

Classification according to Directive 67/548/EEC or Directive 1999/45/EC



T; Toxic

R45-61: May cause cancer. May cause harm to the unborn child.



Xn; Harmful

R22: Harmful if swallowed.



Xi; Sensitizing

R43: May cause sensitization by skin contact.
Information concerning particular hazards for human and environment: Not applicable
Hazards not otherwise classified No information known.

Label elements

Labelling according to Regulation (EC) No 1272/2008

The substance is classified and labeled according to the CLP regulation.

Hazard pictograms



GHS07



GHS08

Signal word Danger

Hazard statements

H317 May cause an allergic skin reaction.
H350 May cause cancer.
H360 May damage fertility or the unborn child.

Precautionary statements

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352 IF ON SKIN: Wash with plenty of water/
P321 Specific treatment (see on this label).
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

WHMIS classification

D1B - Toxic material causing immediate and serious toxic effects
D2A - Very toxic material causing other toxic effects



Classification system

HMIS ratings (scale 0-4)
(Hazardous Materials Identification System)

HEALTH	2
FIRE	1
REACTIVITY	1

Health (acute effects) = 2
Flammability = 1
Physical Hazard = 1

Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

3 Composition/information on ingredients

Chemical characterization: Substances

CAS# Description:

57-41-0 5,5-Diphenylhydantoin

Identification number(s):

EC number: 200-328-6

4 First-aid measures

Description of first aid measures

After inhalation

Supply fresh air. If required, provide artificial respiration. Keep patient warm.

Seek immediate medical advice.

After skin contact

Immediately wash with water and soap and rinse thoroughly.

Seek immediate medical advice.

After eye contact

Rinse opened eye for several minutes under running water. Then consult a doctor.

After swallowing Seek medical treatment.

Information for doctor

Most important symptoms and effects, both acute and delayed

No further relevant information available.

Indication of any immediate medical attention and special treatment needed

No further relevant information available.

5 Fire-fighting measures

Extinguishing media

Suitable extinguishing agents

Carbon dioxide, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

Special hazards arising from the substance or mixture

If this product is involved in a fire, the following can be released:

Carbon monoxide and carbon dioxide

Possibly Hydrogen cyanide (HCN)

Nitrogen oxides (NOx)

Advice for firefighters

Protective equipment:

Wear self-contained respirator.

Wear fully protective impervious suit.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Environmental precautions:

Do not allow material to be released to the environment without proper governmental permits.

Do not allow product to reach sewage system or any water course.

Do not allow to penetrate the ground/soil.

Methods and material for containment and cleaning up:

Dispose contaminated material as waste according to item 13.

Prevention of secondary hazards: No special measures required.

Reference to other sections

See Section 7 for information on safe handling

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

7 Handling and storage

Handling

Precautions for safe handling

Keep container tightly sealed.

Store in cool, dry place in tightly closed containers.

Ensure good ventilation at the workplace.

Open and handle container with care.

Information about protection against explosions and fires: No information known.

Conditions for safe storage, including any incompatibilities

Storage

Requirements to be met by storerooms and receptacles: No special requirements.

Information about storage in one common storage facility: Store away from oxidizing agents.

Further information about storage conditions:

Keep container tightly sealed. *Refrigerate*.

Store in cool, dry conditions in well sealed containers.

Specific end use(s) No further relevant information available.

8 Exposure controls/personal protection

Additional information about design of technical systems:

Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

Control parameters

Components with limit values that require monitoring at the workplace: Not required.

Additional information: No data

Exposure controls

Personal protective equipment

General protective and hygienic measures

The usual precautionary measures for handling chemicals should be followed.

Keep away from foodstuffs, beverages and feed.

Remove all soiled and contaminated clothing immediately.

Wash hands before breaks and at the end of work.

Store protective clothing separately.

Maintain an ergonomically appropriate working environment.

Breathing equipment: Use suitable respirator when high concentrations are present.

Protection of hands:

Impervious gloves

Check protective gloves prior to each use for their proper condition.

The selection of suitable gloves not only depends on the material, but also on quality.

Quality will vary from manufacturer to manufacturer.

Eye protection: Safety glasses

Body protection: Protective work clothing.

9 Physical and chemical properties

Information on basic physical and chemical properties General Information Appearance: Form: Powder Formula: C15H12N2O2 Weight: 252.27	
pH-value:	Not applicable.
Change in condition Melting point/Melting range: 293-298 C (559-568 F) Boiling point/Boiling range: Not determined Sublimation temperature / start: Not determined	
Flash point: Not applicable Flammability (solid, gaseous): Not determined. Ignition temperature: Not determined Decomposition temperature: Not determined Auto igniting: Not determined.	
Danger of explosion: Product does not present an explosion hazard. Explosion limits: Lower: Not determined Upper: Not determined Vapor pressure: Not applicable. Density: Not determined Relative density: Not determined. Vapor density: Not applicable. Evaporation rate: Not applicable. Solubility in / Miscibility with Water: Not determined Partition coefficient (n-octanol/water): Not determined. Viscosity: dynamic: Not applicable. kinematic: Not applicable. Other information: No further relevant information available.	

10 Stability and reactivity

Reactivity No information known.
Chemical stability Stable under recommended storage conditions.
Thermal decomposition / conditions to be avoided:
Decomposition will not occur if used and stored according to specifications.
Possibility of hazardous reactions No dangerous reactions known
Incompatible materials: Oxidizing agents
Hazardous decomposition products:
Carbon monoxide and carbon dioxide
Nitrogen oxides
Possibly Hydrogen cyanide (HCN)

11 Toxicological information

Information on toxicological effects
Acute toxicity: Harmful if swallowed.

LD/LC50 values that are relevant for classification:		
Oral	LD50	2195 mg/kg (rat)
Skin irritation or corrosion: Irritant to skin and mucous membranes. Eye irritation or corrosion: Irritating effect. Sensitization: May cause an allergic skin reaction. Germ cell mutagenicity: No effects known. Carcinogenicity: May cause cancer. IARC-2B: Possibly carcinogenic to humans: limited evidence in humans in the absence of sufficient evidence in experimental animals. Reproductive toxicity: May damage fertility or the unborn child. Specific target organ system toxicity - repeated exposure: No effects known. Specific target organ system toxicity - single exposure: No effects known. Aspiration hazard: No effects known.		

Other information (about experimental toxicology):

Tumorigenic effects have been observed on tests with laboratory animals.
Reproductive effects have been observed on tests with laboratory animals.
Mutagenic effects have been observed on tests with bacteria.
Mutagenic effects have been observed on tests with human lymphocytes.
Mutagenic effects have been observed with human leukocyte.
Mutagenic effects have been observed on tests with laboratory animals.

Subacute to chronic toxicity:

Subacute to chronic toxicity:

The Registry of Toxic Effects of Chemical Substances (RTECS) reports the following effects in laboratory animals:

Behavioral - somnolence (general depressed activity).
Behavioral - hallucinations, distorted perceptions.
Behavioral - ataxia.
Behavioral - changes in motor activity (specific assay).
Behavioral - irritability.
Behavioral - altered sleep time (including change in righting reflex).
Behavioral - excitement.
Behavioral - muscle contraction or spasticity.
Behavioral - sleep.
Behavioral - muscle weakness.
Behavioral - alteration of operant conditioning.
Behavioral - anticonvulsant.
Behavioral - convulsions or effect on seizure threshold.
Behavioral - alteration of classical conditioning.
Behavioral - changes in psychophysiological tests.
Behavioral - withdrawal.
Brain and Coverings - encephalitis.
Brain and Coverings - other degenerative changes.
Brain and Coverings - changes in brain weight.
Brain and Coverings - tumors.
Blood - eosinophilia.
Blood - other changes.
Blood - thrombocytopenia.
Blood - lymphoma, including Hodgkin s disease.
Blood - changes in serum composition (e.g. TP, bilirubin, cholesterol).
Liver - changes in liver weight.
Liver - jaundice, other or unclassified.
Liver - other changes.
Lungs, Thorax, or Respiration - structural or functional change in trachea or bronchi.
Lungs, Thorax, or Respiration - respiratory stimulation.
Lungs, Thorax, or Respiration - other changes.
Lungs, Thorax, or Respiration - respiratory depression
Cardiac - arrhythmias (including changes in conduction).
Vascular - BP lowering not characterized in autonomic section.
Sense Organs and Special Senses (Eye) - effect, not otherwise specified.
Skin and Appendages - dermatitis, other (after systemic exposure).
Skin and Appendages - tumors.
Immunological Including Allergic - increase in cellular immune response
Biochemical - Metabolism (Intermediary) - effect on cyclic nucleotides.
Biochemical - Enzyme inhibition, induction, or change in blood or tissue levels - other enzymes.
Biochemical - Enzyme inhibition, induction, or change in blood or tissue levels - hepatic microsomal mixed oxidase.
Nutritional and Gross Metabolic - weight loss or decreased weight gain.
Kidney, Ureter, Bladder - Kidney tumors.
Reproductive - Tumorigenic effects - transplacental tumorigenesis.
Reproductive - Specific Developmental Abnormalities - craniofacial (including nose and tongue).
Reproductive - Specific Developmental Abnormalities - eye/ear.
Reproductive - Specific Developmental Abnormalities - cardiovascular (circulatory) system.
Reproductive - Effects on Newborn - growth statistics (e.g.%, reduced weight gain).
Reproductive - Effects on Newborn - physical.
Reproductive - Effects on Newborn - delayed effects.
Reproductive - Specific Developmental Abnormalities - skin and skin appendages
Reproductive - Specific Developmental Abnormalities - musculoskeletal system.
Reproductive - Specific Developmental Abnormalities - other developmental abnormalities.
Reproductive - Effects on Newborn - other postnatal measures or effects.
Reproductive - Effects on Newborn - biochemical and metabolic.
Reproductive - Effects on Newborn - viability index (e.g., # alive at day 4 per # born live).
Reproductive - Effects on Newborn - behavioral.
Reproductive - Fertility - litter size (e.g. # fetuses per litter; measured before birth).
Reproductive - Effects on Embryo or Fetus - fetal death.
Reproductive - Effects on Newborn - live birth index (measured after birth)

Reproductive - Maternal Effects - menstrual cycle changes or disorders.
 Reproductive - Fertility - other measures of fertility.
 Reproductive - Specific Developmental Abnormalities - body wall.
 Reproductive - Specific Developmental Abnormalities - urogenital system.
 Reproductive - Specific Developmental Abnormalities - Central Nervous System.
 Reproductive - Effects on Embryo or Fetus - fetotoxicity (except death, e.g., stunted fetus).
 Reproductive - Fertility - post-implantation mortality (e.g. dead/or resorbed implants per total number of implants).
 Reproductive - Effects on Embryo or Fetus - extra-embryonic structures (e.g., placenta, umbilical cord)
 Reproductive - Fertility - male fertility index (e.g. # males impregnating females per # males exposed to fertile nonpregnant females)
 Reproductive - Fertility - abortion.
 Reproductive - Specific Developmental Abnormalities - immune and reticuloendothelial system
 Reproductive - Fertility - pre-implantation mortality (e.g. reduction in number of implants per female; total number of implants per corpora lutea)
 Reproductive - Effects on Embryo or Fetus - other effects to embryo.
 Tumorigenic - carcinogenic by RTECS criteria.
 Tumorigenic - equivocal tumorigenic agent by RTECS criteria.
 Tumorigenic - neoplastic by RTECS criteria.
 Additional toxicological information:
 To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

12 Ecological information

Toxicity
 Aquatic toxicity: No further relevant information available.
 Persistence and degradability No further relevant information available.
 Behavior in environmental systems:
 Bioaccumulative potential No further relevant information available.
 Mobility in soil No further relevant information available.
 Additional ecological information:
 General notes:
 Do not allow material to be released to the environment without proper governmental permits.
 Do not allow product to reach ground water, water course or sewage system, even in small quantities.
 Danger to drinking water if even extremely small quantities leak into the ground.
 Avoid transfer into the environment.
 Results of PBT and vPvB assessment
 PBT: Not applicable.
 vPvB: Not applicable.
 Other adverse effects No further relevant information available.

13 Disposal considerations

Waste treatment methods
 Recommendation Consult state, local or national regulations to ensure proper disposal.
 Uncleaned packagings:
 Recommendation: Disposal must be made according to official regulations.

14 Transport information

Not a hazardous material for transportation.

UN-Number DOT, ADR, IMDG, IATA	None
UN proper shipping name DOT, ADR, IMDG, IATA	None
Transport hazard class(es) DOT, ADR, IMDG, IATA Class	None
Packing group DOT, ADR, IMDG, IATA	None
Environmental hazards:	Not applicable.
Special precautions for user	Not applicable.

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
Transport/Additional information:	Not dangerous according to the above specifications.
DOT	
Marine Pollutant (DOT):	No

15 Regulatory information

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

National regulations

All components of this product are listed on the Canadian Domestic Substances List (DSL). This product is not listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical Substance Inventory. Use of this product is restricted to research and development only. This product must be used by or directly under the supervision of a technically qualified individual as defined by TSCA. This product must not be used for commercial purposes or in formulations for commercial purposes.

SARA Section 313 (specific toxic chemical listings)

57-41-0 5,5-Diphenylhydantoin

California Proposition 65

Prop 65 - Chemicals known to cause cancer Substance is listed.

Prop 65 - Developmental toxicity

57-41-0 5,5-Diphenylhydantoin

Prop 65 - Developmental toxicity, female Substance is not listed.

Prop 65 - Developmental toxicity, male Substance is not listed.

Information about limitation of use:

For use only by technically qualified individuals.

Workers are not allowed to be exposed to this hazardous material. Exceptions can be made by the authorities in certain cases.

This product is subject to the reporting requirements of section 313 of the Emergency Planning and Community Right to Know Act of 1986 and 40CFR372.

Other regulations, limitations and prohibitive regulations

Substances of very high concern (SVHC) according to REACH, Article 57

Substance is not listed.

REACH - Pre-registered substances Substance is listed.

Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information:

The above information is believed to be correct but does not purport to be complete and should be used only as a guide. The burden of safe use of this material rests entirely with the user.