ChemicalBook

Chemical Safety Data Sheet MSDS / SDS

1-Bromo-3-chloro-5,5-dimethylhydantoin

Revision Date:2025-01-11 Revision Number:1

SECTION 1: Identification of the substance/mixture and of the company/undertaking

Product identifier

Product name	: 1-Bromo-3-chloro-5,5-dimethylhydantoin
CBnumber	: CB3489387
CAS	: 16079-88-2
EINECS Number	: 240-230-0
Synonyms	: 1-Bromo-3-chloro-5,5-dimethylhydantoin,agribrom

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

Relevant identified uses	: For R&D use only. Not for medicinal, household or other use.
Uses advised against	: none

Company Identification

Company	: Chemicalbook
Address	: Building 1, Huihuang International, Shangdi 10th Street, Haidian District, Beijing
Telephone	: 010-86108875

SECTION 2: Hazards identification

Classification of the substance or mixture

Acute toxicity - Category 4, Oral

Skin corrosion, Sub-category 1B

Hazardous to the aquatic environment, short-term (Acute) - Category Acute 1

Label elements

Pictogram(s)

Signal word Danger

Hazard statement(s)

H272 May intensify fire; oxidizer

H302 Harmful if swallowed

H314 Causes severe skin burns and eye damage

H400 Very toxic to aquatic life

Precautionary statement(s)

Prevention

P264 Wash ... thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...

P273 Avoid release to the environment.

Response

P301+P317 IF SWALLOWED: Get medical help.

P330 Rinse mouth.

P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P363 Wash contaminated clothing before reuse.

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P316 Get emergency medical help immediately.

P321 Specific treatment (see ... on this label).

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P391 Collect spillage.

Storage

P405 Store locked up.

Disposal

P501 Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Other hazards

no data available

SECTION 3: Composition/information on ingredients

Substance

Product name	: 1-Bromo-3-chloro-5,5-dimethylhydantoin
Synonyms	: 1-Bromo-3-chloro-5,5-dimethylhydantoin,agribrom
CAS	: 16079-88-2
EC number	: 240-230-0
MF	: C5H6BrClN2O2
MW	: 241.47

SECTION 4: First aid measures

Description of first aid measures

If inhaled

Move the victim into fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration and consult a doctor immediately. Do not use mouth to mouth resuscitation if the victim ingested or inhaled the chemical.

Following skin contact

Take off contaminated clothing immediately. Wash off with soap and plenty of water. Consult a doctor.

Following eye contact

Rinse with pure water for at least 15 minutes. Consult a doctor.

Following ingestion

Rinse mouth with water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Call a doctor or Poison Control Center immediately.

Most important symptoms and effects, both acute and delayed

no data available

Indication of any immediate medical attention and special treatment needed

FIRST AID: If in eyes, hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice. If on skin or clothing, Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice. If inhaled, move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration . Call a poison control center or doctor for further treatment advice. If swallowed, call poison control center, or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person./98% 1-Bromo-3-chloro-5,5-dimethylhydantoin/

SECTION 5: Firefighting measures

Extinguishing media

Do not use ammonium phosphate extinguisher near water and /1-bromo-3-chloro-5,5-dimethylhandoin/.

Specific Hazards Arising from the Chemical

no data available

Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Avoid dust formation. Avoid breathing mist, gas or vapours.Avoid contacting with skin and eye. Use personal protective equipment.Wear chemical impermeable gloves. Ensure adequate ventilation.Remove all sources of ignition. Evacuate personnel to safe areas.Keep people away from and upwind of spill/leak.

Environmental precautions

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

Methods and materials for containment and cleaning up

When handling or dealing with spills, use impact-resistant goggles with side shields, or face shield, body-covering clothes, including

impervious rubber or plastic gloves and boots; use a dust respirator if dusting occurs. Sweep up dry spills and dispose of as described for pesticide disposal. If drum contents are contaminated or decomposing, do not reseal container; isolate unsealed drum in the open or in a well-ventilated area; flood with large volumes of water if necessary. 98% 1-Bromo-3-chloro-5,5-dimethylhydantoin

SECTION 7: Handling and storage

Precautions for safe handling

Handling in a well ventilated place. Wear suitable protective clothing. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use non-sparking tools. Prevent fire caused by electrostatic discharge steam.

Conditions for safe storage, including any incompatibilities

Store in a dark, cool (below 66 deg F (30"C)), dark well-ventilated area, In well closed original containers, away from energy sources, combustible organic materials, oxidizers, stong bases, and moisture.

SECTION 8: Exposure controls/personal protection

Control parameters

Occupational Exposure limit values

no data available

Biological limit values

no data available

Exposure controls

Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and the risk-elimination area.

Individual protection measures

Eye/face protection

Wear tightly fitting safety goggles with side-shields conforming to EN 166(EU) or NIOSH (US).

Skin protection

Wear fire/flame resistant and impervious clothing. Handle with gloves. Gloves must be inspected prior to use. 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.

Respiratory protection

If the exposure limits are exceeded, irritation or other symptoms are experienced, use a full-face respirator.

Thermal hazards

no data available

SECTION 9: Physical and chemical properties

Information on basic physicochemical properties

Physical state	DryPowder,PelletsLargeCrystals

Colour	Free-flowing, white powder
Odour	Faint halogen odor
Melting point/freezing point	159 - 163°C (Decomposes)
Boiling point or initial boiling point and boiling range	232.7°C at 760mmHg
Flammability	no data available
Lower and upper explosion limit/flammability limit	no data available
Flash point	94.5°C
Auto-ignition temperature	no data available
Decomposition temperature	no data available
pH	pH of 3.5 at 0.15% diluted solution
Kinematic viscosity	no data available
Solubility	In water, 0.15 g/100g water at 20 deg C
Partition coefficient n-octanol/water	log Kow = 0.35
Vapour pressure	Negligible
Density and/or relative density	1.91g/cm3
Relative vapour density	no data available
Particle characteristics	no data available

SECTION 10: Stability and reactivity

Reactivity

no data available

Chemical stability

no data available

Possibility of hazardous reactions

no data available

Conditions to avoid

no data available

Incompatible materials

Strong oxidizer, mix with water only/ Reaction with combustible organic materials, bases, moisture or with oxidizers may generate heat, hazardous gases and, possibly fire or explosion. 98% 1-Bromo-3-chloro-5,5-dimethylhydantoin

Hazardous decomposition products

When heated to decomposition it emits toxic vapors of /nitrogen oxides, hydrogen bromide, and hydrogen chloride/.

SECTION 11: Toxicological information

Acute toxicity

- Oral: LD50 Rat oral 1390 mg/kg
- Inhalation: no data available
- Dermal: no data available

Skin corrosion/irritation

no data available

Serious eye damage/irritation

no data available

Respiratory or skin sensitization

no data available

Germ cell mutagenicity

no data available

Carcinogenicity

no data available

Reproductive toxicity

no data available

STOT-single exposure

no data available

STOT-repeated exposure

no data available

Aspiration hazard

no data available

SECTION 12: Ecological information

Toxicity

Toxicity to fish: LC50; Species: Pimephales promelas (Fathead minnow); Conditions: freshwater, static; Concentration: 14100 ppm for 96 hr (95% confidence interval: 13386-14990 ppm) /97% purity

Toxicity to daphnia and other aquatic invertebrates: EC50; Species: Daphnia magna (Water flea) juvenile; Conditions: freshwater, flow through; Concentration: 0.1 ppm for 96 hr; Effect: intoxication, immobilization /96% purity

Toxicity to algae: no data available

Toxicity to microorganisms: no data available

Persistence and degradability

no data available

Bioaccumulative potential

An estimated BCF of 3 was calculated in fish for 1-bromo-3-chloro-5,5-dimethylhydantoin(SRC), using a log Kow of 0.35(1) and a regression-derived equation(2). According to a classification scheme(3), this BCF suggests the potential for bioconcentration in aquatic organisms is low(SRC).

Mobility in soil

Using a structure estimation method based on molecular connectivity indices(1), the Koc of 1-bromo-3-chloro-5,5-dimethylhydantoin can be estimated to be 10(SRC). According to a classification scheme(2), this estimated Koc value suggests that 1-bromo-3-chloro-5,5-dimethylhydantoin is expected to have very high mobility in soil(SRC).

Toxics Screening Level

The initial threshold screening level (ITSL) for 1-Bromo-3-chloro-5,5-dimethylhydantoin is 2 µg/m3, based on an 8-hour averaging time.

Other adverse effects

no data available

SECTION 13: Disposal considerations

Disposal methods

Product

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

Contaminated packaging

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

SECTION 14: Transport information

UN Number

ADR/RID: UN3085 (For reference only, please check.)

IMDG: UN3085 (For reference only, please check.)

IATA: UN3085 (For reference only, please check.)

UN Proper Shipping Name

ADR/RID: OXIDIZING SOLID, CORROSIVE, N.O.S. (For reference only, please check.)

IMDG: OXIDIZING SOLID, CORROSIVE, N.O.S. (For reference only, please check.)

IATA: OXIDIZING SOLID, CORROSIVE, N.O.S. (For reference only, please check.)

Transport hazard class(es)

ADR/RID: 5.1 (For reference only, please check.)

IMDG: 5.1 (For reference only, please check.)

IATA: 5.1 (For reference only, please check.)

Packing group, if applicable

ADR/RID: I (For reference only, please check.)

IMDG: I (For reference only, please check.)

IATA: I (For reference only, please check.)

Environmental hazards

ADR/RID: Yes

IMDG: Yes

IATA: Yes

Special precautions for user

no data available

Transport in bulk according to IMO instruments

no data available

SECTION 15: Regulatory information

Safety, health and environmental regulations specific for the product in question

European Inventory of Existing Commercial Chemical Substances (EINECS)

Listed.

EC Inventory

Listed.

United States Toxic Substances Control Act (TSCA) Inventory

Listed.

China Catalog of Hazardous chemicals 2015

Not Listed.

New Zealand Inventory of Chemicals (NZIoC)

Listed.

PICCS

Listed.

Vietnam National Chemical Inventory

Listed.

IECSC

Listed.

Korea Existing Chemicals List (KECL)

Listed.

SECTION 16: Other information

Abbreviations and acronyms

CAS: Chemical Abstracts Service

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

RID: Regulation concerning the International Carriage of Dangerous Goods by Rail

IMDG: International Maritime Dangerous Goods

IATA: International Air Transportation Association

TWA: Time Weighted Average

STEL: Short term exposure limit

LC50: Lethal Concentration 50%

LD50: Lethal Dose 50%

EC50: Effective Concentration 50%

References

IPCS - The International Chemical Safety Cards (ICSC), website: http://www.ilo.org/dyn/icsc/showcard.home

HSDB - Hazardous Substances Data Bank, website: https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm

IARC - International Agency for Research on Cancer, website: http://www.iarc.fr/

eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website: http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en

CAMEO Chemicals, website: http://cameochemicals.noaa.gov/search/simple

ChemIDplus, website: http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp

ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: http://www.phmsa.dot.gov/hazmat/library/erg

Germany GESTIS-database on hazard substance, website: http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp

ECHA - European Chemicals Agency, website: https://echa.europa.eu/