
1. Identification**1.1 GHS Product identifier**

Product name 1-Bromo-3-chloro-5,5-dimethylimidazolidine-2,4-dione

1.2 Other means of identification

Product number IMI392

Other names 2,4-Imidazolidinedione, 1-bromo-3-chloro-5,5-dimethyl-

1.3 Recommended use of the chemical and restrictions on use

Identified uses For industry use only.

Uses advised against no data available

1.4 Supplier's details

Company Acros PharmaTech Limited

Address HongKong: Unit 3A-8,12/F,Kaiser Centre,No.18 Centre Street,Sai Ying Pun,HongKong
Mainland: Suite 920,Changwu Road 888,Changzhou,Jiangsu,China

Telephone 86(519)85265509

2. Hazard identification**2.1 Classification of the substance or mixture**

Oxidizing solids, Category 2

Acute toxicity - Oral, Category 4

Skin corrosion, Category 1B

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

2.2 GHS label elements, including precautionary statements

Pictogram(s)



Signal word

Danger

H272 May intensify fire; oxidizer

H302 Harmful if swallowed

Hazard statement(s)

H314 Causes severe skin burns and eye damage

H400 Very toxic to aquatic life

Precautionary statement(s)

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Prevention

P220 Keep away from clothing and other combustible materials.

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

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.

P273 Avoid release to the environment.

P370+P378 In case of fire: Use ... to extinguish.

P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor/...if you feel unwell.

P330 Rinse mouth.

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

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].

Response P363 Wash contaminated clothing before reuse.

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

P310 Immediately call a POISON CENTER/doctor/...

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 ...

2.3 Other hazards which do not result in classification

none

3. Composition/information on ingredients

3.1 Substances

Chemical name	Common names and synonyms	CAS number	EC number	Concentration
1-Bromo-3-chloro-5,5-dimethylimidazolidine-2,4-dione	1-Bromo-3-chloro-5,5-dimethylimidazolidine-2,4-dione	16079-88-2	none	≥95%

4. First-aid measures

4.1 Description of necessary 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

Wash off with soap and plenty of water. 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

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms/effects, acute and delayed

no data available

4.3 Indication of immediate medical attention and special treatment needed, if necessary

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/

5. Fire-fighting measures**5.1 Extinguishing media****Suitable extinguishing media**

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

5.2 Specific hazards arising from the chemical

no data available

5.3 Special protective actions for fire-fighters

Wear self-contained breathing apparatus for firefighting if necessary.

6. Accidental release measures**6.1 Personal precautions, protective equipment and emergency procedures**

Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. For personal protection see section 8.

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

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/

7. Handling and storage

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Avoid exposure - obtain special instructions before use. Provide appropriate exhaust ventilation at places where dust is formed. For precautions see section 2.2.

7.2 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, strong bases, and moisture.

8. Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure limit values

no data available

Biological limit values

no data available

8.2 Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

8.3 Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection

Safety glasses with side-shields conforming to EN166. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Wear impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. 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.

Respiratory protection

Wear dust mask when handling large quantities.

Thermal hazards

no data available

9. Physical and chemical properties

Physical state	white to off-white solid
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°C
Partition coefficient n-octanol/water (log value)	log Kow = 0.35
Vapour pressure	Negligible
Density and/or relative density	1.91g/cm ³
Relative vapour density	no data available
Particle characteristics	no data available

10. Stability and reactivity

10.1 Reactivity

no data available

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

no data available

10.4 Conditions to avoid

no data available

10.5 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/

10.6 Hazardous decomposition products

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

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

12. Ecological information**12.1 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

12.2 Persistence and degradability

no data available

12.3 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).

12.4 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).

12.5 Other adverse effects

no data available

13. Disposal considerations**13.1 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.

14. Transport information

14.1 UN Number

ADR/RID: UN3085 IMDG: UN3085 IATA: UN3085

14.2 UN Proper Shipping Name

ADR/RID: OXIDIZING SOLID, CORROSIVE, N.O.S.

IMDG: OXIDIZING SOLID, CORROSIVE, N.O.S.

IATA: OXIDIZING SOLID, CORROSIVE, N.O.S.

14.3 Transport hazard class(es)

ADR/RID: 5.1 IMDG: 5.1 IATA: 5.1

14.4 Packing group, if applicable

ADR/RID: II IMDG: II IATA: II

14.5 Environmental hazards

ADR/RID: yes IMDG: yes IATA: yes

14.6 Special precautions for user

no data available

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

no data available

15. Regulatory information

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

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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.
Philippines Inventory of Chemicals and Chemical Substances (PICCS)			Listed.
Vietnam National Chemical Inventory			Listed.
Chinese Chemical Inventory of Existing Chemical Substances (China IECSC)			Listed.

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/>

Disclaimer: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. We as supplier shall not be held liable for any damage resulting from handling or from contact with the above product.