

## Chemical Safety Data Sheet MSDS / SDS

## Bromadiolone

Revision Date:2026-03-20 Revision Number:1

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

## Product identifier

Product name : Bromadiolone  
CBnumber : CB3756243  
CAS : 28772-56-7  
EINECS Number : 249-205-9  
Synonyms : BROPRODIFACOUM;MAKI

## 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

## GHS Label elements, including precautionary statements

Symbol(GHS)



Signal word

Danger

## Precautionary statements

P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P273 Avoid release to the environment.  
P264 Wash skin thoroughly after handling.  
P202 Do not handle until all safety precautions have been read and understood.

## Hazard statements

H410 Very toxic to aquatic life with long lasting effects  
H372 Causes damage to organs through prolonged or repeated exposure

## SECTION 3: Composition/information on ingredients

## Substance

Product name	: Bromadiolone
Synonyms	: BROPRODIFACOUM;MAKI
CAS	: 28772-56-7
EC number	: 249-205-9
MF	: C30H23BrO4
MW	: 527.41

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## SECTION 4: First aid measures

### Description of first aid measures

#### General information

Immediately remove any clothing soiled by the product.

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

Remove breathing apparatus only after contaminated clothing have been completely removed.

In case of irregular breathing or respiratory arrest provide artificial respiration.

#### After inhalation

Supply fresh air or oxygen; call for doctor.

In case of unconsciousness place patient stably in side position for transportation.

#### After skin contact

Immediately wash with water and soap and rinse thoroughly.

#### After eye contact

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

#### After swallowing

If symptoms persist consult doctor.

#### 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.

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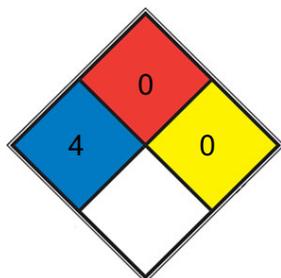
## SECTION 5: Firefighting measures

### FIRE-FIGHTING MEASURES

Fire-fighting measure	Details
	Chemical Book

Suitable extinguishing agents	Use fire fighting measures that suit the environment. A solid water stream may be inefficient.
Special hazards arising from the substance or mixture	No further relevant information available. 56.0
Protective equipment	Mouth respiratory protective device.

#### NFPA 704



HEALTH 4 Very short exposure could cause death or major residual injury (e.g. hydrogen cyanide, phosgene, methyl isocyanate, [hydrofluoric acid](#))

FIRE 0 Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand. Materials that will not burn in air when exposed to a temperature of 820 °C (1,500 °F) for a period of 5 minutes.(e.g. Carbon tetrachloride)

REACT 0 Normally stable, even under fire exposure conditions, and is not reactive with water (e.g. helium,[N2](#))

SPEC.

HAZ.

## SECTION 6: Accidental release measures

### Personal precautions, protective equipment and emergency procedures

Not required.

### Environmental precautions

Inform respective authorities in case of seepage into water course or sewage system.

Do not allow to enter sewers/ surface or ground water.

### Methods and material for containment and cleaning up

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

### 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.

### Protective Action Criteria for Chemicals

**PAC-1**

0.091 mg/m<sup>3</sup>

**PAC-2**

1 mg/m<sup>3</sup>

**PAC-3**

3.4 mg/m<sup>3</sup>

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## SECTION 7: Handling and storage

### Handling

#### Precautions for safe handling

Thorough dedusting.

Ensure good ventilation/exhaustion at the workplace.

Open and handle receptacle with care.

#### Information about protection against explosions and fires

Keep respiratory protective device available.

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

### Storage

Store in accordance with information listed on the product insert.

#### Requirements to be met by storerooms and receptacles

No special requirements.

#### Information about storage in one common storage facility

Not required.

#### Further information about storage conditions

Keep receptacle tightly sealed.

#### Specific end use(s)

No further relevant information available.

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## SECTION 8: Exposure controls/personal protection

#### Additional information about design of technical systems

No further data; see item 7.

#### Control parameters

## **Components with limit values that require monitoring at the workplace**

Not required.

### **Additional information**

The lists that were valid during the creation were used as basis.

### **Exposure controls**

#### **Personal protective equipment**

#### **General protective and hygienic measures**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Store protective clothing separately.

56.0

Avoid contact with the eyes and skin.

#### **Breathing equipment**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

#### **Protection of hands**

Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

#### **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

#### **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

#### **Eye protection**

Tightly sealed goggles

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## **SECTION 9: Physical and chemical properties**

### **Information on basic physicochemical properties**

#### **Appearance**

**Physical State**

Solid

**Color**

Not determined.

**Odor**

Characteristic

**Structural Formula**

C<sub>30</sub>H<sub>23</sub>BrO<sub>4</sub>

**Molecular Weight**

527.4 g/mol

**Odor Threshold**

Not determined.

**pH**

Not applicable.

**Change in condition****Melting point/Melting range**

200–210 °C (392–410 °F)

**Boiling point/Boiling range**

723.4±60.0 °C(Predicted)

**Flash point**

Not applicable.

**Flammability (solid,gas)**

Product is not flammable.

**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**

$2 \times 10^{-6}$  Pa (20 °C)

### **Density**

1.3243 (rough estimate)

### **Relative Density**

1.3243 (rough estimate)

### **Vapor Density**

Not applicable.

### **Evaporation Rate**

Not applicable.

### **Solubility in / Miscibility with**

DMF: 30 mg/ml; DMSO: 30 mg/ml; DMSO:PBS (pH 7.2) (1:3): 0.25 mg/ml

### **Water at 20 °C (68 °F)**

0.75 g/l

### **Partition coefficient (n-octanol/water)**

Not determined.

### **Viscosity**

#### **Dynamic**

Not applicable.

#### **Kinematic**

Not applicable.

### **SOLUBILITY**

DMF: 30 mg/ml; DMSO: 30 mg/ml; DMSO:PBS (pH 7.2) (1 3): 0.25 mg/ml

### **Water solubility**

$19 \text{ mg l}^{-1}$  (20 °C)

No information available

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## **SECTION 10: Stability and reactivity**

### **Reactivity**

No further relevant information available.

## Chemical stability

### Thermal decomposition / conditions to be avoided

No decomposition if used according to specifications.

### Possibility of hazardous reactions

No dangerous reactions known.

### Conditions to avoid

No further relevant information available.

### Incompatible materials

strong bases

### Hazardous decomposition products

carbon dioxide; carbon monoxide; hydrogen bromide

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## SECTION 11: Toxicological information

### RTECS Number

GN4934700

### Information on toxicological effects

#### Acute toxicity

LD/LC50 values that are relevant for classification:

Route	Endpoint	Value
Oral	LD50	1,750 µg/kg (mouse) 490 µg/kg (rat)

#### Primary irritant effect

##### on the skin

No irritant effect.

##### on the eye

No irritating effect.

#### Sensitization

No sensitizing effects known.

#### Additional toxicological information

Danger through skin absorption.

#### Carcinogenic categories

## **IARC (International Agency for Research on Cancer)**

Substance is not listed.

## **NTP (National Toxicology Program)**

Substance is not listed.

## **OSHA-Ca (Occupational Safety & Health Administration)**

Substance is not listed.

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# SECTION 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.

### **Ecotoxicological effects**

## **Remark**

Very toxic for fish

## **Additional ecological information**

### **General notes**

Water hazard class 3 (Self-assessment) extremely hazardous for water

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.

Also poisonous for fish and plankton in water bodies.

Very toxic for aquatic organisms

## **Results of PBT and vPvB assessment**

### **PBT**

Not applicable.

**vPvB**

Not applicable.

**PBT:**

Not applicable.

**vPvB:**

Not applicable.

**Other adverse effects**

No further relevant information available.

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## SECTION 13: Disposal considerations

**Waste treatment methods****Recommendation**

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

**Uncleaned packagings****Recommendation**

Disposal must be made according to official regulations.

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## SECTION 14: Transport information

**UN-Number**

DOT, IMDG, IATA UN2811

**UN proper shipping name**

DOT Toxic solids, organic, n.o.s. (Bromadiolone)

IMDG TOXIC SOLID, ORGANIC, N.O.S. (Bromadiolone)

IATA Toxic solid, organic, n.o.s. (Bromadiolone) 56.0

**Transport hazard class(es)****DOT**

Class: 6.1 Toxic substances

Label: 6.1

**IMDG, IATA**

Class: 6.1 Toxic substances

Label: 6.1

**Packing group**

DOT, IMDG, IATA I

### **Environmental hazards**

Environmentally hazardous substance, solid

### **Special precautions for user**

Warning: Toxic substances

### **Hazard identification number (Kemler code)**

66

### **EMS Number**

F-A,S-A

### **Stowage Category**

B

### **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**

Not applicable.

### **Transport/Additional information**

**DOT:**

### **Quantity limitations**

On passenger aircraft/rail: 5 kg

On cargo aircraft only: 50 kg

**IMDG:**

### **Limited quantities (LQ)**

0

### **Excepted quantities (EQ)**

Code: E5

Maximum net quantity per inner packaging: 1 g

Maximum net quantity per outer packaging: 300 g

**IATA:**

### **Remarks**

When sold in quantities of less than or equal to 1 mL, or 1 g, with an Excepted Quantity Code of

E1, E2, E4, or E5, this item meets the De Minimis

Quantities exemption, per IATA 2.6.10.

Therefore packaging does not have to be labeled as

Dangerous Goods/Excepted Quantity.

## UN "Model Regulation"

UN 2811 TOXIC SOLID, ORGANIC, N.O.S.

(BROMADIOLONE), 6.1, I, ENVIRONMENTALLY

HAZARDOUS 56.0

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## SECTION 15: Regulatory information

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

No further relevant information available.

#### Sara

Section 355 (extremely hazardous substances):	Substance is listed.
Section 313 (Specific toxic chemical listings):	Substance is not listed.
TSCA (Toxic Substances Control Act):	Substance is not listed.
Hazardous Air Pollutants:	Substance is not listed.

#### Proposition 65

Chemicals known to cause cancer:	Substance is not listed.
Chemicals known to cause reproductive toxicity for females:	Substance is not listed.
Chemicals known to cause reproductive toxicity for males:	Substance is not listed.
Chemicals known to cause developmental toxicity:	Substance is not listed.

#### Chemicals known to cause cancer

Substance is not listed.

#### Chemicals known to cause reproductive toxicity for females

Substance is not listed.

#### Chemicals known to cause reproductive toxicity for males

Substance is not listed.

#### Chemicals known to cause developmental toxicity

Substance is not listed.

#### Carcinogenic categories

EPA (Environmental Protection Agency):	Substance is not listed.
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#### TLV (Threshold Limit Value)

Substance is not listed.

#### NIOSH-Ca (National Institute for Occupational Safety and Health)

Substance is not listed.

#### Chemical safety assessment

A Chemical Safety Assessment has not been carried out.

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## SECTION 16: Other information

### Abbreviations and acronyms

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMS: Hazardous Materials Identification System (USA)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Acute Toxicity - Oral 1: Acute toxicity – Category 1

Toxic to Reproduction 1B: Reproductive toxicity – Category 1B

Specific Target Organ Toxicity - Repeated Exposure 1: Specific target organ toxicity (repeated exposure) – Category 1

Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1

Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1 56.0

### Disclaimer:

The information in this MSDS is only applicable to the specified product, unless otherwise specified, it is not applicable to the mixture of this product and other substances. This MSDS only provides information on the safety of the product for those who have received the appropriate professional training for the user of the product. Users of this MSDS must make independent judgments on the applicability of this SDS. The authors of this MSDS will not be held responsible for any harm caused by the use of this MSDS.