

According to Regulation (EC) No 1907/2006

According to Regulation (EC) No 2020/878

# 1,2-Dibromo-2,4-dicyanobutane



Version number: 1.1

Issued: 2024-04-05

Replaces SDS: 2023-01-05

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

### 1.1. Product identifier

**Trade name**

1,2-Dibromo-2,4-dicyanobutane

**CAS number**

35691-65-7

**EC number**

252-681-0

**Synonyms**

Methyldibromoglutaronitrile

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

**Relevant identified uses**

Research and development. Laboratory Chemicals. Manufacture of substances.

**Not suitable for use in**

Not suitable for human consumption or veterinary purposes.

### 1.3. Details of the supplier of the safety data sheet

**Supplier**

Molekula Group

**Address**

Molekula Ltd, Lingfield Way, Darlington,  
DL1 4XX Darlington  
United Kingdom

**Telephone**

+44 (0) 3302 000 333

**Email**

info@molekula.com

**Web site**

www.molekula.com

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## 1.4. Emergency telephone number

### Poison center/Additional emergency number

0344 892 0111 - National Poisons Information Service (Newcastle Centre)

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

#### Classification

Serious eye damage, hazard category 1

Hazardous to the aquatic environment — Acute hazard category 1

Skin corrosion, hazard category 1B

Acute toxicity, oral, hazard category 4

Specific Target Organ Toxicity — Single exposure, hazard category 3

#### Hazard statements

H302, H314, H335, H400

### 2.2. Label elements

Labelling according to Regulation (EC) No 1272/2008

#### Hazard pictograms



#### Signal word

Danger

#### Hazard statements

H302 Harmful if swallowed.

H314 Causes severe skin burns and eye damage.

H335 May cause respiratory irritation.

H400 Very toxic to aquatic life.

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## Precautionary statements

P202 Do not handle until all safety precautions have been read and understood.  
 P261 Avoid breathing dust/fumes/gas/mist/vapours/spray.  
 P264 Wash skin thoroughly after handling.  
 P270 Do not eat, drink or smoke when using this product.  
 P271 Use only outdoors or in a well-ventilated area.  
 P273 Avoid release to the environment.  
 P280 Wear protective gloves/protective clothing/eye protection/face protection.  
 P301 + P330 + P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.  
 P302 + P352 IF ON SKIN: Wash with plenty of water/.  
 P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
 P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P310 Immediately call a POISON CENTER/doctor.  
 P330 Rinse mouth.  
 P362 + P364 Take off contaminated clothing and wash it before reuse.  
 P391 Collect spillage.  
 P403 + P233 Store in a well-ventilated place. Keep container tightly closed.  
 P405 Store locked up.  
 P501 Dispose of contents/container to local regulations.

## 2.3. Other hazards

No data available

## SECTION 3: Composition/information on ingredients

### 3.2. Mixtures

Chemical name	CAS No. EC No. REACH No. Index No.	Concentration	Classification	H-phrases M factor acute M factor chronic	Note
1,2-Dibromo-2,4-dicyanobutane	35691-65-7 252-681-0 - -	100%	Acute Tox. 4 - oral, Skin Corr. 1B, Aquatic Acute 1, Eye Dam. 1, STOT SE 3	H302, H314, H335, H400 - -	-

## Molecular weight

265.93

## Substance additional information

For the complete text of H- / EUH-statements mentioned in this section, see section 16.

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## SECTION 4: First aid measures

### 4.1. Description of first aid measures

IF exposed or concerned: Get medical advice/attention. First aiders/ medical personnel need to protect themselves. Show this Safety Data Sheet (SDS) to medical personnel.

#### Inhalation

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor. Maintain an open airway. Loosen any tight clothing, such as a collar, tie or belt. Place unconscious person on the side in the recovery position and ensure breathing. For breathing difficulties oxygen may be necessary. If breathing stops, provide artificial respiration.

#### Skin contact

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]. Immediately call a POISON CENTER/doctor.

#### Eye contact

Remove contact lenses if present. Rinse eyes with water. Continue to rinse for at least 15 minutes and seek medical attention.

#### Ingestion

IF SWALLOWED: give water to drink (two glasses at most). Seek medical advice immediately. In exceptional cases only, if medical care is not available within one hour, induce vomiting (only if the persons are fully conscious and awake). Administer activated charcoal (20 - 40g in a 10% slurry) and consult a doctor as quickly as possible. Do not attempt to neutralise.

#### Information for doctors

No data available.

### 4.2. Most important symptoms and effects, both acute and delayed

The severity of the symptoms described will vary dependant of the concentration and the length of exposure. Causes burns by all exposure routes.

See section 11 for more detailed information on health effects and symptoms.

#### Inhalation

Single exposure may cause the following adverse effects: Causes severe burns. Difficulty in breathing. Unconsciousness, possibly death.

#### Skin contact

Single exposure may cause the following adverse effects: Causes severe burns. Blistering may occur. May be absorbed in the body and cause dizziness, nausea and vomiting. Unconsciousness, death.

#### Eye contact

Single exposure may cause the following adverse effects: Causes serious eye damage. Unconsciousness, possibly death.

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## Ingestion

Single exposure may cause the following adverse effects: Severe abdominal pain. May cause severe internal injury. Unconsciousness, possibly death.

## 4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically. Immediately call a POISON CENTER/doctor.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

#### Suitable extinguishing media

In case of fire: Use foam, carbon dioxide, dry powder or water fog to extinguish.

#### Unsuitable extinguishing media

Do not use water jet as an extinguisher, as this will spread the fire.

### 5.2. Special hazards arising from the substance or mixture

Specific hazards: Corrosive.

Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours.

Carbon monoxide (CO). Carbon dioxide (CO<sub>2</sub>).

Nitrous gases (NO<sub>x</sub>).

### 5.3. Advice for firefighters

#### Special protective equipment for fire-fighters

Evacuate area. Avoid breathing gas, fume, vapours or spray. Prevent skin contact by maintaining a safe distance and by wearing suitable protective equipment/ clothing. Cool containers exposed to heat with water spray and remove container, if no risk is involved.

## SECTION 6: Accidental release measures

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

Do not breathe vapour/spray. Avoid contact with skin and eyes. For personal protection, see section 8.

In case of fire: Evacuate area. Fight fire remotely due to the risk of explosion.

### 6.2. Environmental precautions

Avoid discharge into drains, water courses or onto the ground.

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

Collect with absorbent, non-combustible material into suitable containers.

### 6.4. Reference to other sections

For personal protection, see section 8. For waste disposal, see section 13.

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## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

#### Preventive handling precautions

For precautions see section 2.2. Work under hood. Take action to prevent static discharges. Wear protective clothing, gloves, eye and face protection. Avoid contact with skin and eyes. Avoid ingestion and inhalation.

#### General hygiene

Observe good chemical hygiene practices. Keep away from food, drink and animal feeding stuffs. Wash contaminated skin thoroughly after handling. Do not eat, drink or smoke when using this product. Remove contaminated clothing and launder thoroughly before re-use.

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

Store in a dry place. Store in a closed container.

Recommended storage temperature: 2 to 8°C (35.6 to 46.4°F)

### 7.3. Specific end use(s)

No specific usage precautions noted.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

No data available

### 8.2. Exposure controls

#### Personal Protective Equipment Symbols



#### Eye / face protection

Wear eye protection.

#### Hand protection

Wear protective gloves. Recommended gloves: Nitrile.

Glove Thickness: 0.11mm

Breakthrough time: 8 hours

Always inspect gloves before use. If signs of wear and tear are noticed then the gloves should be replaced.

No specific hygiene procedures noted, but good personal hygiene practices are always advisable, especially when working with chemicals. Wash contaminated skin thoroughly after handling.

#### Other skin protection

Wash skin thoroughly after handling.

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## **Respiratory protection**

Provide adequate ventilation. If ventilation is insufficient, suitable respiratory protection must be provided.

## **Environmental exposure controls**

Avoid discharge into drains.

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

### **9.1. Information on basic physical and chemical properties**

#### **Physical state**

Solid

#### **Colour**

White / off-white.

#### **Odour**

Pungent.

#### **Melting point / freezing point**

51 - 55 °C

#### **Boiling point or initial boiling point and boiling range**

No data available

#### **Flammability**

No data available

#### **Lower and upper explosion limit**

No data available

#### **Flash point**

No data available

#### **Auto-ignition temperature**

No data available

#### **Decomposition temperature**

No data available

#### **pH**

No data available

#### **Kinematic viscosity**

No data available

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## Solubility

No data available

## Water solubility

Insoluble in water.

## Partition coefficient n-octanol/water

No data available

## Vapour pressure

No data available

## Density and/or relative density

1.1 g/cm<sup>3</sup>

## Relative vapour density

No data available

## Particle characteristics

No data available

## 9.2. Other information

No data available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

The following applies in general to flammable organic substances and mixtures: when finely distributed, the risk of a dust explosion may be assumed.

### 10.2. Chemical stability

Stable under the prescribed storage conditions.

### 10.3. Possibility of hazardous reactions

No data available

### 10.4. Conditions to avoid

No data available

### 10.5. Incompatible materials

Strong oxidising agents.

### 10.6. Hazardous decomposition products

See section 5.



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## SECTION 11: Toxicological information

### 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

#### Acute toxicity

Product / Substance name CAS / EC no.	Dose descriptor	Value / Dose	Exposure route	Test animals
1,2-Dibromo-2,4-dicyanobutane 35691-65-7 / 252-681-0	LD50	515.0 mg/kg	Oral	Rat

#### Skin corrosion/irritation

Product / Substance name CAS / EC no.	Result
1,2-Dibromo-2,4-dicyanobutane 35691-65-7 / 252-681-0	Causes severe skin burns and eye damage.

#### Serious eye damage/irritation

Product / Substance name CAS / EC no.	Result
1,2-Dibromo-2,4-dicyanobutane 35691-65-7 / 252-681-0	Causes serious eye damage.

#### STOT-single exposure

Product / Substance name CAS / EC no.	Result
1,2-Dibromo-2,4-dicyanobutane 35691-65-7 / 252-681-0	May cause respiratory irritation.

#### Aspiration hazard

Based on available data, the classification criteria are not met.

### 11.2. Information on other hazards

No data available

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## SECTION 12: Ecological information

### 12.1. Toxicity

#### Acute fish toxicity

Product / Substance name CAS / EC no.	Measurement type	Value / Result	Duration of exposure	Species
1,2-Dibromo-2,4-dicyanobutane 35691-65-7 / 252-681-0	LC50	6.7-9.8 mg/l	96 hours	Cyprinodon variegatus (Sheepshead minnow)

#### Acute crustacean toxicity

Product / Substance name CAS / EC no.	Measurement type	Value / Result	Duration of exposure	Species
1,2-Dibromo-2,4-dicyanobutane 35691-65-7 / 252-681-0	EC50	1.6 - 3.2 mg/l	48 hours	Daphnia magna

### 12.2. Persistence and degradability

No data available

### 12.3. Bioaccumulative potential

No data available

### 12.4. Mobility in soil

No data available

### 12.5. Results of PBT and vPvB assessment

No data available

### 12.6. Endocrine disrupting properties

This product does not contain any known or suspected endocrine disruptors.

### 12.7. Other adverse effects

No data available

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## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

#### Disposal considerations

Dispose of contents/container in accordance with local/regional/national/international regulations.

## SECTION 14: Transport information

### 14.1. UN number

3261

### 14.2. UN proper shipping name

#### ADR / RID / ADN proper shipping name

CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S. (1,2-Dibromo-2,4-dicyanobutane)

#### IMDG proper shipping name

CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S. (1,2-Dibromo-2,4-dicyanobutane)

#### IATA proper shipping name

Corrosive solid, acidic, organic, n.o.s. (1,2-Dibromo-2,4-dicyanobutane)

### 14.3. Transport hazard class(es)

#### Label

ADR/RID/ADN



8 Environmental hazard

IMDG



8 Environmental hazard

IATA



8 Environmental hazard

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## ADR / RID Class

8

## ADR / RID Classification code

C4

## ADR / RID hazard identification number

80

## IMDG Class

8

## IATA Class

8

## ADN Class

8

## ADN Class Code

C4

### 14.4. Packing group

ADR / RID / ADN: III

IMDG: III

IATA: III

### 14.5. Environmental hazards

Not applicable

### 14.6. Special precautions for user

#### Special precautions for user

Tunnel restriction code: E

Transport category: 3

#### IMDG EmS

F-A, S-B

### 14.7. Maritime transport in bulk according to IMO instruments

IBC Instruction: IBC08

## SECTION 15: Regulatory information

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

#### EU regulations

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

This material safety data sheet complies with the requirements of Regulation (EU) 2020/878.

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## National regulations

No data available

## 15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

## SECTION 16: Other information

### Phrase meaning

Eye Dam. 1 - Serious eye damage, hazard category 1

Aquatic Acute 1 - Hazardous to the aquatic environment — Acute hazard category 1

Skin Corr. 1B - Skin corrosion, hazard category 1B

Acute Tox. 4 - oral - Acute toxicity, oral, hazard category 4

STOT SE 3 - Specific Target Organ Toxicity — Single exposure, hazard category 3

H302 Harmful if swallowed.

H314 Causes severe skin burns and eye damage.

H335 May cause respiratory irritation.

H400 Very toxic to aquatic life.