

According to Regulation (EC) No 1907/2006

# 2-Methyl-1-propenylmagnesium bromide, 0.5M solution in THF



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

### 1.1. Product identifier

**Trade name**

2-Methyl-1-propenylmagnesium bromide, 0.5M solution in THF

**CAS number**

38614-36-7

**EC number**

684-507-8

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

**Relevant identified uses**

Research and development.

**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

Street 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

**Contact person**

Kevin Banks

**Email address**

+44 (0) 7769276927

### 1.4. Emergency telephone number

**Poison center/Additional emergency number**

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

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## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

#### Classification

Flammable liquids, hazard category 2

Substances and mixtures, which in contact with water, emit flammable gases, hazard category 1

Acute toxicity, oral, hazard category 4

Skin corrosion, hazard category 1

Carcinogenicity, hazard category 2

Specific Target Organ Toxicity — Single exposure, hazard category 3

#### Hazard statements

H225, H260, H302, H314, H335, H351

#### Supplemental hazard statements

EUH014, EUH019

### 2.2. Label elements

Labelling according to Regulation (EC) No 1272/2008

#### Hazard pictograms



#### Signal word

Danger

#### Hazard statements

H225 Highly flammable liquid and vapour.

H260 In contact with water releases flammable gases which may ignite spontaneously.

H302 Harmful if swallowed.

H314 Causes severe skin burns and eye damage.

H335 May cause respiratory irritation.

H351 Suspected of causing cancer.

#### Supplemental hazard statements

EUH014 Reacts violently with water.

EUH019 May form explosive peroxides.

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## Precautionary statements

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

P260 Do not breathe dust.

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

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

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

## 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
tetrahydrofuran	109-99-9 203-726-8 01-2119444314-46 603-025-00-0	≥91 - ≤92%	Flam. Liq. 2, Eye Irrit. 2, STOT SE 3 - resp. tract irrit., Carc. 2	H225, H319, H335, H351, EUH019 - -	STOT SE 3; H335: C ≥ 25 % Eye Irrit.2; H319: C ≥ 25 %;
2-Methyl-1-propenylmagnesium bromide	38614-36-7 684-507-8 - -	≥8 - ≤9%	Water react. 2, Skin Corr. 1B	H261, H314 - -	-

## Molecular weight

159.31

## Substance additional information

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

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

Do not leave affected person unattended. Show this Safety Data Sheet (SDS) to medical personnel.

## Inhalation

IF INHALED: Remove person to fresh air and keep comfortable for breathing. In case of persistent throat irritation or coughing: Seek medical attention and bring these instructions. Serious cases: If not breathing, give artificial respiration. Get medical attention.

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## **Skin contact**

IF ON SKIN: Wash with plenty of soap and water. Continue to rinse for at least 15 minutes. Do not remove clothing if stuck to the skin. Get medical advice/attention if you feel unwell.

## **Eye contact**

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

## **Ingestion**

Rinse mouth. Do NOT induce vomiting. Get medical advice/attention if you feel unwell.

## **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.

## **Inhalation**

Single exposure may cause the following adverse effects: Upper respiratory irritation. Difficulty in breathing.

## **Skin contact**

Single exposure may cause the following adverse effects: Severe skin irritation.

## **Eye contact**

May cause temporary eye irritation.

## **Ingestion**

Single exposure may cause the following adverse effects: Severe abdominal pain. Nausea, vomiting.

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

Treat symptomatically. No special treatment requirement.

## **SECTION 5: Firefighting measures**

### **5.1. Extinguishing media**

#### **Suitable extinguishing media**

In case of fire: Use dry sand or cement to extinguish.

#### **Unsuitable extinguishing media**

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

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

Flammable liquid and vapour.

May form explosive peroxides.

Containers can burst violently when heated, due to excess pressure build-up.

Vapours may form explosive mixture with air at room temperature.

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

## Other

Warn everybody of potential hazards and evacuate if necessary.

## SECTION 6: Accidental release measures

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

Avoid inhalation of vapours and spray mist and contact with skin and eyes. Provide adequate ventilation. Remove sources of ignition. Beware of the explosion danger. Take action to prevent static discharges. For personal protection, see section 8.

### 6.2. Environmental precautions

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

If risk of water pollution occurs, notify appropriate authorities.

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

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

Remove sources of ignition. Beware of the explosion danger.

Use spark-proof tools and explosion-proof equipment.

### 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

Reacts violently with water.

Do not allow contact with water.

May form explosive peroxides.

Crystal formation may indicate peroxidation and should be considered extremely dangerous.

Handle and store contents under inert gas.

Avoid formation of vapours.

Avoid contact with skin and eyes.

Wear protective clothing as described in Section 8 of this safety data sheet.

Do not use in confined spaces without adequate ventilation and/or respirator.

#### General hygiene

Take off immediately all contaminated clothing.

Isolate contaminated clothing and wash before reuse.

Wash contaminated skin thoroughly after handling.

Do not eat, drink or smoke when using the product.

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

Do not use in confined spaces without adequate ventilation and/or respirator.

Static electricity and formation of sparks must be prevented.

Store in tightly closed original container in a dry, cool and well-ventilated place.

Protect from sunlight.

Store away from: Heating. Air and moisture sensitive. Store under inert gas. Reacts violently with water.

### 7.3. Specific end use(s)

No specific usage precautions noted.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### Exposure limits

No occupational exposure limit assigned.

### 8.2. Exposure controls

#### Eye / face protection

Wear eye protection.

#### Hand protection

Wear protective gloves. No specific hygiene procedures noted, but good personal hygiene practices are always advisable, especially when working with chemicals.

Wash contaminated skin thoroughly after handling.

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### Other skin protection

Wash skin thoroughly after handling.

### Respiratory protection

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

### Environmental exposure controls

Avoid discharge into drains. Risk of explosion.

## SECTION 9: Physical and chemical properties

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

#### Physical state

Liquid

#### Colour

No data available

#### Odour

No data available

#### Melting point / freezing point

No data available

#### 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

-15 °C

#### 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

## Partition coefficient n-octanol/water

No data available

## Vapour pressure

No data available

## Density and/or relative density

No data available

## 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

There are no known reactivity hazards associated with this product.

### 10.2. Chemical stability

Stable under normal temperature conditions. Stable under the prescribed storage conditions.

### 10.3. Possibility of hazardous reactions

There are no known conditions that are likely to result in a hazardous situation.

### 10.4. Conditions to avoid

Heat, sparks, flames.

### 10.5. Incompatible materials

There are no known reactivity hazards associated with this product.

### 10.6. Hazardous decomposition products

See section 5.

## SECTION 11: Toxicological information

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

#### Acute toxicity



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Product / Substance name CAS / EC no.	Dose descriptor	Value / Dose	Exposure route	Duration of exposure	Test animals
tetrahydrofuran 109-99-9 / 203-726-8	LD50	1650 mg/kg	-	-	Rat
tetrahydrofuran 109-99-9 / 203-726-8	Acute Toxicity (Inhalation LC50):	14.7 mg/l	vapour	6 hours	Rat

## Aspiration hazard

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

## 11.2. Information on other hazards

No data available

## SECTION 12: Ecological information

### 12.1. Toxicity

#### Acute fish toxicity

Product / Substance name CAS / EC no.	Measurement type	Value / Result	Duration of exposure	Species
tetrahydrofuran 109-99-9 / 203-726-8	LC50	2160 mg/l	96 hours	Pimephales promelas (Fat-head Minnow)

#### Acute crustacean toxicity

Product / Substance name CAS / EC no.	Measurement type	Value / Result	Duration of exposure	Species
tetrahydrofuran 109-99-9 / 203-726-8	EC50	3485 mg/l	48 hours	Daphnia magna

#### Chronical toxicity

Product / Substance name CAS / EC no.	Measurement type	Value / Result	Duration of exposure	Species
tetrahydrofuran	NOEC	216 mg/l	33 days	Pimephales promelas

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Product / Substance name CAS / EC no.	Measurement type	Value / Result	Duration of exposure	Species
109-99-9 / 203-726-8				(Fat-head Minnow)

## 12.2. Persistence and degradability

### Persistence and degradability

Product / Substance name CAS / EC no.	Type of test	Duration	Result
tetrahydrofuran 109-99-9 / 203-726-8	aerobic	28 days	39% - Not readily biodegradable.

## 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

No data available

## 12.7. Other adverse effects

No data available

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

#### Disposal considerations

Dispose of contents/container in accordance with local regulations.

## SECTION 14: Transport information

### 14.1. UN number

3399

### 14.2. UN proper shipping name

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

ORGANOMETALLIC SUBSTANCE, LIQUID, WATER-REACTIVE, FLAMMABLE

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**IMDG proper shipping name**

ORGANOMETALLIC SUBSTANCE, LIQUID, WATER-REACTIVE, FLAMMABLE

**IATA proper shipping name**

Organometallic substance, liquid, water-reactive, flammable

## 14.3. Transport hazard class(es)

**Label**

ADR/RID/ADN



4.3

3

IMDG



4.3

3

IATA



4.3

3

**ADR / RID Class**

4.3

**ADR / RID Classification code**

WF1

**ADR / RID hazard identification number**

323

**IMDG Class**

4.3 (3)

**IATA Class**

4.3 (3)

**ADN Class**

4.3

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## ADN Class Code

WF1

### 14.4. Packing group

ADR / RID / ADN: II

IMDG: II

IATA: II

### 14.5. Environmental hazards

#### IMDG EmS

F-G, S-N

### 14.6. Special precautions for user

Tunnel restriction code: D/E

Transport category: 0

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

IBC Instruction: IBC01

## SECTION 15: Regulatory information

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

#### EU regulations

This SDS is not mandated under REACH Regulation (EC) No 1907/2006 and is provided for information only.

#### National regulations

No data available

### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

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## SECTION 16: Other information

### Phrase meaning

Flam. Liq. 2 - Flammable liquids, hazard category 2

Water react. 1 - Substances and mixtures, which in contact with water, emit flammable gases, hazard category 1

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

Skin Corr. 1 - Skin corrosion, hazard category 1

Carc. 2 - Carcinogenicity, hazard category 2

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

Water react. 2 - Substances and mixtures, which in contact with water, emit flammable gases, hazard category 2

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

Eye Irrit. 2 - Eye irritation, hazard category 2

STOT SE 3 - resp. tract irrit. - Specific Target Organ Toxicity — Single exposure, hazard category 3 - respiratory tract irritation

H225 Highly flammable liquid and vapour.

H260 In contact with water releases flammable gases which may ignite spontaneously.

H261 In contact with water releases flammable gases.

H302 Harmful if swallowed.

H314 Causes severe skin burns and eye damage.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

H351 Suspected of causing cancer.

EUH014 Reacts violently with water.

EUH019 May form explosive peroxides.