

Ethynylmagnesium Bromide, 0.5M in Tetrahydrofuran

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830
Date of issue: 10/7/2010 Revision date: 1/4/2019 Supersedes: 8/10/2018 Version: 3.1

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

1.1. Product identifier

Product form	: Mixture
Product name	: Ethynylmagnesium Bromide, 0.5M in Tetrahydrofuran
CAS-No.	: 4301-14-8
Product code	: 90026438
Formula	: C ₂ HBrMg
Product group	: Blend

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

1.2.1. Relevant identified uses

Industrial/Professional use spec	: For professional use only Industrial Intermediate Laboratory chemicals
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1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Scafell Organics
Lingfield Way
Yarm Road Business Park
DL1 4XX Darlington - UK
T +44 (0) 1949 823777
info@scafellorganics.com - www.scafellorganics.com

1.4. Emergency telephone number

Emergency number : +44 7590 545705

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Flammable liquids, Category 2	H225
Substances and Mixtures which, in contact with water, emit flammable gases, Category 1	H260
Skin corrosion/irritation, Category 1B	H314
Carcinogenicity, Category 2	H351
Reproductive toxicity, Category 2	H361d
Aspiration hazard, Category 1	H304
Full text of H statements : see section 16	

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



GHS02

GHS05

GHS08

Signal word (CLP)

: Danger

Hazard statements (CLP)

: H225 - Highly flammable liquid and vapour.
H260 - In contact with water releases flammable gases which may ignite spontaneously.
H304 - May be fatal if swallowed and enters airways.
H314 - Causes severe skin burns and eye damage.
H351 - Suspected of causing cancer.
H361d - Suspected of damaging the unborn child.

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Precautionary statements (CLP)	: P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P223 - Do not allow contact with water. P231+P232 - Handle and store contents under inert gas. Protect from moisture. P280 - Wear protective clothing, eye protection, face protection. P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P312 - Call a POISON CENTER, a doctor if you feel unwell. P370+P378 - In case of fire: Use dry extinguishing powder, carbon dioxide (CO ₂) to extinguish.
EUH-statements	: EUH014 - Reacts violently with water.

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Ethynylmagnesium Bromide	(CAS-No.) 4301-14-8 (EC-No.) 610-098-2		Flam. Liq. 2, H225 Water-react. 2, H261 Skin Corr. 1B, H314
Tetrahydrofuran	(CAS-No.) 109-99-9 (EC-No.) 203-726-8 (EC Index-No.) 603-025-00-0		Flam. Liq. 2, H225 Carc. 2, H351 Eye Irrit. 2, H319 STOT SE 3, H335

Specific concentration limits:

Name	Product identifier	Specific concentration limits
Tetrahydrofuran	(CAS-No.) 109-99-9 (EC-No.) 203-726-8 (EC Index-No.) 603-025-00-0	(C >= 25) STOT SE 3, H335 (C >= 25) Eye Irrit. 2, H319

Full text of H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: If possible show this sheet, if not available show packaging or label.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. Give oxygen or artificial respiration if necessary. Get immediate medical advice/attention.
First-aid measures after skin contact	: After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water. Do not remove clothing if it sticks to the skin. Seek medical attention if burns develop.
First-aid measures after eye contact	: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Remove contact lenses, if present and easy to do. Continue rinsing.
First-aid measures after ingestion	: Rinse mouth out with water. Get immediate medical advice/attention. Give water to drink if victim completely conscious/alert. Place the victim in the recovery position.

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

Symptoms/effects	: Causes severe skin burns and eye damage.
Symptoms/effects after inhalation	: Inhalation may cause irritation (cough, short breathing, difficulty in breathing). Loss of consciousness.
Symptoms/effects after skin contact	: May produce skin irritation, blistering, ulcers, and deep scarring. Causes severe burns.
Symptoms/effects after eye contact	: Causes eye irritation. redness, itching, tears. Direct contact may result in corneal injury.
Symptoms/effects after ingestion	: Symptoms of ingestion include drowsiness, weakness, headache, dizziness, nausea, vomiting. Burns or irritation of the linings of the mouth, throat, and gastrointestinal tract.

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

Get immediate medical advice/attention.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: Dry chemical, CO ₂ , dry sand, or alcohol-resistant foam.
Unsuitable extinguishing media	: Water.

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5.2. Special hazards arising from the substance or mixture

Fire hazard	: Extremely flammable liquid and vapour. Vapours may travel long distances along ground before igniting/flashing back to vapour source.
Explosion hazard	: May form flammable/explosive vapour-air mixture.
Reactivity in case of fire	: Reacts violently with water.
Hazardous decomposition products in case of fire	: When heated to decomposition, emits toxic fumes.

5.3. Advice for firefighters

Precautionary measures fire	: Do not allow contact with water.
Firefighting instructions	: Eliminate all ignition sources if safe to do so. Evacuate area. Warn all persons of corrosive and toxic hazard.
Protection during firefighting	: Use self-contained breathing apparatus and chemically protective clothing. Do not attempt to take action without suitable protective equipment.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures	: Do not handle until all safety precautions have been read and understood. Ventilate the area thoroughly, especially low lying areas (basements, workpits etc). Proper grounding procedures to avoid static electricity should be followed.
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6.1.1. For non-emergency personnel

Protective equipment	: Wear recommended personal protective equipment.
Emergency procedures	: Do not touch or walk on the spilled product. Do not breathe vapours. Do not get in eyes, on skin, or on clothing. Evacuate area. Turn leaking containers leak-side up to prevent the escape of liquid.
Measures in case of dust release	: Shelter from vapours by keeping upwind. Special attention should be given to low areas/pits where flammable vapours can accumulate.

6.1.2. For emergency responders

Protective equipment	: Do not attempt to take action without suitable protective equipment. Use self-contained breathing apparatus and chemically protective clothing.
Emergency procedures	: All equipment used when handling the product must be grounded. Cover spill with non combustible material, e.g.: sand/earth. Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous. Stop leak if safe to do so.

6.2. Environmental precautions

Prevent liquid from entering sewers, watercourses, underground or low areas. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

For containment	: Collect leaking and spilled liquid in sealable containers as far as possible. Contain the spilled material by bunding.
Methods for cleaning up	: Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible.

6.4. Reference to other sections

For further information refer to section 8: "Exposure controls/personal protection".

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed	: Do not allow contact with water.
Precautions for safe handling	: Avoid contact with skin, eyes and clothing. Avoid formation of vapours. Do not handle until all safety precautions have been read and understood. Ensure that there is a suitable ventilation system. Do not handle in a confined space. Handle under inert gas.
Hygiene measures	: Take off immediately all contaminated clothing and wash it before reuse. Contaminated work clothing should not be allowed out of the workplace. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures	: Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment.
Storage conditions	: Store in a dry place. Store in a closed container. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep contents under inert gas.
Incompatible products	: Water. Oxidising agents. oxygen. alcohols. Acids.
Incompatible materials	: Moisture sensitive. Heat sources. Direct sunlight. Water, humidity.
Storage area	: Store in dry protected location to prevent any moisture contact. Store at ambient temperature.

7.3. Specific end use(s)

No additional information available

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SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Tetrahydrofuran (109-99-9)		
United Kingdom	Local name	Tetrahydrofuran
United Kingdom	WEL TWA (mg/m³)	150 mg/m³
United Kingdom	WEL TWA (ppm)	50 ppm
United Kingdom	WEL STEL (mg/m³)	300 mg/m³
United Kingdom	WEL STEL (ppm)	100 ppm
United Kingdom	Remark (WEL)	Sk (Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity)
United Kingdom	Regulatory reference	EH40. HSE

8.2. Exposure controls

Appropriate engineering controls:

(Harmful on single exposure) : Use local exhaust ventilation.

Personal protective equipment:

Avoid all unnecessary exposure. Wear recommended personal protective equipment.

Hand protection:

Always wash hands after handling the product. The protective gloves to be used must comply with the specifications of the regulation 2016/425 and the resultant standard EN 374

Type	Material	Permeation	Thickness (mm)	Penetration	Standard
	Nitrile rubber (NBR), Butyl rubber	6 (> 480 minutes)	0.3 minimum		EN 374

Eye protection:

Emergency eye wash fountains should be available in the immediate vicinity of any potential exposure. Use eye protection according to EN 166, designed to protect against liquid splashes.

Skin and body protection:

Emergency safety showers should be available in the immediate vicinity of any potential exposure. Keep suitable chemically resistant protective clothing readily available for emergency use

Type	Standard
Protective clothing (with elasticated cuffs and closed neck), PVC apron covering the tops of the boots, Boots made of PVC	EN 14605

Respiratory protection:

Keep self contained breathing apparatus readily available for emergency use. Where exposure through inhalation may occur from use, respiratory protection equipment is recommended

Device	Filter type	Condition	Standard
Respiratory protective device with a particle filter	ABEK	Vapour protection	EN 14387

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Molecular mass	: 129.24 g/mol
Colour	: No data available
Odour	: No data available
Odour threshold	: No data available
pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: -17 °C

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Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: 0.94
Solubility	: Reacts with water.
Log Pow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Reacts violently with water. Highly flammable liquid and vapour.

10.2. Chemical stability

Stable under recommended handling and storage conditions (see section 7).

10.3. Possibility of hazardous reactions

Stable under normal conditions of use.

10.4. Conditions to avoid

Do not allow contact with water. Protect from moisture. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

10.5. Incompatible materials

water. Oxidising agents. oxygen. Alcohols. Acids.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced. On combustion releases : Toxic fumes.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified

Tetrahydrofuran (109-99-9)	
LD50 oral rat	1650 mg/kg
LD50 dermal rat	> 2000 mg/kg
LC50 inhalation rat (mg/l)	14.7 mg/l 6h

Skin corrosion/irritation	: Causes severe skin burns and eye damage.
Serious eye damage/irritation	: Serious eye damage, category 1, implicit
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Suspected of causing cancer.
Reproductive toxicity	: Suspected of damaging the unborn child.
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
Aspiration hazard	: May be fatal if swallowed and enters airways.

SECTION 12: Ecological information

12.1. Toxicity

Acute aquatic toxicity	: Not classified
Chronic aquatic toxicity	: Not classified

Tetrahydrofuran (109-99-9)	
LC50 fish 1	2160 mg/l Pimephales promelas (fathead marrow)
EC50 Daphnia 1	382 mg/l 24h

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12.2. Persistence and degradability

Ethynylmagnesium Bromide, 0.5M in Tetrahydrofuran (4301-14-8)

Persistence and degradability	No data available.
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Tetrahydrofuran (109-99-9)

Persistence and degradability	Not biodegradable.
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12.3. Bioaccumulative potential

Ethynylmagnesium Bromide, 0.5M in Tetrahydrofuran (4301-14-8)

Bioaccumulative potential	No bioaccumulation data available.
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Tetrahydrofuran (109-99-9)

Log Pow	0.46
Bioaccumulative potential	Not potentially bioaccumulable.

12.4. Mobility in soil

Ethynylmagnesium Bromide, 0.5M in Tetrahydrofuran (4301-14-8)

Ecology - soil	No data available.
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12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

No additional information available

SECTION 13: Disposal considerations






13.1. Waste treatment methods

Product/Packaging disposal recommendations : Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

Additional information : Do not allow water (or moist air) contact with this material. Handle empty containers with care because residual vapours are flammable.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

ADR	IMDG	IATA	ADN	RID
14.1. UN number				
3399	3399	3399	3399	3399
14.2. UN proper shipping name				
ORGANOMETALLIC SUBSTANCE, LIQUID, WATER-REACTIVE, FLAMMABLE	ORGANOMETALLIC SUBSTANCE, LIQUID, WATER-REACTIVE, FLAMMABLE	Organometallic substance, liquid, water-reactive, flammable	ORGANOMETALLIC SUBSTANCE, LIQUID, WATER REACTIVE, FLAMMABLE	ORGANOMETALLIC SUBSTANCE, LIQUID, WATER-REACTIVE, FLAMMABLE
Transport document description				
UN 3399 ORGANOMETALLIC SUBSTANCE, LIQUID, WATER-REACTIVE, FLAMMABLE (Ethynylmagnesium Bromide, 0.5 M Solution in Tetrahydrofuran), 4.3 (3), II, (D/E)	UN 3399 ORGANOMETALLIC SUBSTANCE, LIQUID, WATER-REACTIVE, FLAMMABLE (Ethynylmagnesium Bromide, 0.5 M Solution in Tetrahydrofuran), 4.3 (3), II	UN 3399 Organometallic substance, liquid, water-reactive, flammable (Ethynylmagnesium Bromide, 0.5 M Solution in Tetrahydrofuran), 4.3, II	UN 3399 ORGANOMETALLIC SUBSTANCE, LIQUID, WATER REACTIVE, FLAMMABLE (Ethynylmagnesium Bromide, 0.5 M Solution in Tetrahydrofuran), 4.3 (3), II	UN 3399 ORGANOMETALLIC SUBSTANCE, LIQUID, WATER-REACTIVE, FLAMMABLE (Ethynylmagnesium Bromide, 0.5 M Solution in Tetrahydrofuran), 4.3 (3), II
14.3. Transport hazard class(es)				
4.3 (3)	4.3 (3)	4.3 (3)	4.3 (3)	4.3 (3)
				

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14.4. Packing group

II

II

II

II

II

14.5. Environmental hazards

Dangerous for the environment : No

Dangerous for the environment : No
Marine pollutant : No

Dangerous for the environment : No

Dangerous for the environment : No

Dangerous for the environment : No

No supplementary information available

14.6. Special precautions for user

Overland transport

Classification code (ADR) : WF1
Special provisions (ADR) : 274
Limited quantities (ADR) : 500ml
Excepted quantities (ADR) : E2
Packing instructions (ADR) : P001, IBC01
Mixed packing provisions (ADR) : MP15
Portable tank and bulk container instructions (ADR) : T7
Portable tank and bulk container special provisions (ADR) : TP2, TP7, TP36, TP41
Tank code (ADR) : L4DH
Tank special provisions (ADR) : TU4, TU14, TU22, TE21, TM2
Vehicle for tank carriage : FL
Transport category (ADR) : 0
Special provisions for carriage - Packages (ADR) : V1
Special provisions for carriage - Loading, unloading and handling (ADR) : CV23
Special provisions for carriage - Operation (ADR) : S2
Hazard identification number (Kemler No.) : 323
Orange plates :



Tunnel restriction code (ADR) : D/E
EAC code : 4W
APP code : A(fl)

Transport by sea

Special provisions (IMDG) : 274
Packing instructions (IMDG) : P001
Special packing provisions (IMDG) : PP31
IBC packing instructions (IMDG) : IBC01
Tank instructions (IMDG) : T7
Tank special provisions (IMDG) : TP2, TP7, TP36, TP41
EmS-No. (Fire) : F-G
EmS-No. (Spillage) : S-N
Stowage category (IMDG) : D
Stowage and handling (IMDG) : SW2, H1
Segregation (IMDG) : SG35, SG26
Properties and observations (IMDG) : Flammable liquid. Reacts violently with moisture, water and acids evolving flammable gas.

Air transport

PCA Excepted quantities (IATA) : E2
PCA Limited quantities (IATA) : Forbidden
PCA limited quantity max net quantity (IATA) : Forbidden
PCA packing instructions (IATA) : 493
PCA max net quantity (IATA) : 1L
CAO packing instructions (IATA) : 494
CAO max net quantity (IATA) : 5L
Special provisions (IATA) : A3, A803

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ERG code (IATA) : 4FW

Inland waterway transport

Classification code (ADN) : WF1
Special provisions (ADN) : 274
Limited quantities (ADN) : 500 ml
Excepted quantities (ADN) : E2
Equipment required (ADN) : PP, EX, A
Ventilation (ADN) : VE01
Provisions for handling and stowage of the cargo (ADN) : HA08
Number of blue cones/lights (ADN) : 1

Rail transport

Classification code (RID) : WF1
Special provisions (RID) : 274
Excepted quantities (RID) : E2
Packing instructions (RID) : P001, IBC01
Mixed packing provisions (RID) : MP15
Portable tank and bulk container instructions (RID) : T7
Portable tank and bulk container special provisions (RID) : TP2, TP7, TP36, TP41
Tank codes for RID tanks (RID) : L4DH
Special provisions for RID tanks (RID) : TU4, TU14, TU22, TE21, TM2
Transport category (RID) : 0
Special provisions for carriage – Packages (RID) : W1
Special provisions for carriage - Loading, unloading and handling (RID) : CW23
Colis express (express parcels) (RID) : CE7
Hazard identification number (RID) : 323

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

Contains no REACH substances with Annex XVII restrictions
Contains no substance on the REACH candidate list
Contains no REACH Annex XIV substances
Directive 2012/18/EU (SEVESO III)

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Full text of H- and EUH-statements:	
Carc. 2	Carcinogenicity, Category 2
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Flam. Liq. 2	Flammable liquids, Category 2
Skin Corr. 1B	Skin corrosion/irritation, Category 1B
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation
Water-react. 2	Substances and Mixtures which, in contact with water, emit flammable gases, Category 2
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.

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H304	May be fatal if swallowed and enters airways.
H314	Causes severe skin burns and eye damage.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H351	Suspected of causing cancer.
H361d	Suspected of damaging the unborn child.
EUH014	Reacts violently with water.

SDS EU (REACH Annex II)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product