



Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Date of issue: 5/2/2019 Version: 1.0

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

1.1. Product identifier

Product form : Mixture

Product name : (2-Ethylhexyl)magnesium Bromide solution 1M in Diethyl Ether

90224-21-8 CAS-No. Product code : 90028465 Formula : C8H17BrMg Product group · Blend

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

1.2.1. Relevant identified uses

: Laboratory use, Industrial use, Professional use Main use category

Industrial/Professional use spec : For professional use only

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Supplier

Scafell Organics Molekula Ltd Lingfield Way Darlington - England

T +44 (0) 1949 823777 / +44 (0) 7590 545705

info@molekula.com / kbowen@molekula.com - www.molekula.com

1.4. Emergency telephone number

: +44 (0) 7590 545705 **Emergency number**

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Flammable liquids, Category 1 H224 Acute toxicity (oral), Category 4 H302 Skin corrosion/irritation, Category 1 H314

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)







GHS07

GHS02

GHS05

Signal word (CLP) : Danger

Hazard statements (CLP) : H224 - Extremely flammable liquid and vapour.

H302 - Harmful if swallowed.

H314 - Causes severe skin burns and eye damage.

Precautionary statements (CLP) : P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources.

No smoking.

P280 - Wear protective clothing, eye protection, face protection, protective gloves.

P284 - Wear respiratory protection.

P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing.

Rinse skin with water or shower.

P308+P311 - IF exposed or concerned: Call a POISON CENTER or doctor.

EUH-statements : EUH014 - Reacts violently with water. EUH019 - May form explosive peroxides.

2.3. Other hazards

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII

This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

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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]
Diethyl Ether	(CAS-No.) 60-29-7 (EC-No.) 200-467-2 (EC Index-No.) 603-022-00-4	74 - 84	Flam. Liq. 1, H224 Acute Tox. 4 (Oral), H302 STOT SE 3, H336
(2-Ethylhexyl)magnesium Bromide	(CAS-No.) 90224-21-8	16 - 26	Skin Corr. 1, H314

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. Never give anything by mouth to an unconscious person. Do not leave affected person unattended.

: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable First-aid measures after inhalation for breathing. Give oxygen or artificial respiration if necessary. If breathing difficulties

persist: Get 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. If irritation

persists, consult a doctor.

First-aid measures after eye contact : Rinse immediately with plenty of water. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

: Rinse mouth out with water. Do not induce vomiting. Get medical advice/attention. First-aid measures after ingestion

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

Symptoms/effects after inhalation Burns or irritation of the linings of the mouth, throat, and gastrointestinal tract. Material is destructive to tissue of the mucuous membranes and upper respiratory tract. Cough,

shortness of breath, headache, nausea,

Symptoms/effects after skin contact : Causes severe burns. May produce skin irritation, blistering, ulcers, and deep scarring.

Symptoms/effects after eye contact Causes serious eye damage. May cause severe chemical burns to skin and cornea.

stinging. Tears.

Symptoms/effects after ingestion : Swallowing this material may result in health hazard. Symptoms of ingestion include

drowsiness, weakness, headache, dizziness, nausea, vomiting. Severe irritation or burns to the mouth, throat, oesophagus, and stomach.

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 powder. Sand. Unsuitable extinguishing media : Do NOT use water jet.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Flammable liquid and vapour.

Explosion hazard : May form flammable/explosive vapour-air mixture. May form explosive peroxides.

Hazardous decomposition products in case of fire : Carbon oxides (CO, CO2). Magnesium oxide fumes.

5.3. Advice for firefighters

Precautionary measures fire : Keep container tightly closed and away from heat, sparks and flame. Keep away from

combustible materials.

Firefighting instructions : Exercise caution when fighting any chemical fire. Prevent fire fighting water from entering

the environment.

Protection during firefighting : Wear recommended personal protective equipment. Use self-contained breathing

apparatus and chemically protective clothing.

Other information : Warn all persons of toxic hazard.

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). Keep away from

combustible materials

6.1.1. For non-emergency personnel

Protective equipment : Wear recommended personal protective equipment.

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Emergency procedures	: Evacuate unnecessary personnel. Mark out the contaminated area with signs and prevent
	access to unauthorized personnel. Do not touch or walk on the spilled product. Avoid

contact with skin, eyes and clothing.

Measures in case of dust release : Shelter from vapours by keeping upwind. Ventilate the area thoroughly, especially low lying areas (basements, workpits etc). 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 : Ventilate area

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

For containment : Collect spillage. 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.

Try to stop release if without risk.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed : Handle empty containers with care because residual vapours are flammable. Reacts

violently with water.

Precautions for safe handling : Avoid formation of vapours. Avoid contact with skin, eyes and clothing. 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. Do not allow contact with water.

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.

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

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Ensure adequate ventilation, especially in confined areas. Proper grounding procedures to

avoid static electricity should be followed.

Storage conditions : Keep only in the original container in a cool, well ventilated place away from : Heat

sources, Direct sunlight. Keep container closed when not in use. Air and moisture sensitive. Light sensitive. Store contents under inert gas. Reacts violently with water.

Incompatible products : Strong oxidisers. Strong acids.

Incompatible materials : Sources of ignition. Direct sunlight. Heat sources. open flames. sparks. Air contact.

Moisture. Water, humidity.

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

smoking.

Storage area : Keep away from combustible materials. Store between 10°C and 20°C. Store in dry

protected location to prevent any moisture contact. Store in a dark area.

Special rules on packaging : Never allow product to get in contact with water during storage.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Diethyl Ether (60-29-7)		
United Kingdom	Local name	Diethyl ether
United Kingdom	WEL TWA (mg/m³)	310 mg/m³
United Kingdom	WEL TWA (ppm)	100 ppm
United Kingdom	WEL STEL (mg/m³)	620 mg/m³
United Kingdom	WEL STEL (ppm)	200 ppm
United Kingdom	Regulatory reference	EH40. HSE

8.2. Exposure controls

Appropriate engineering controls:

Handle in accordance with good industrial hygiene and safety procedures. Floors should be impervious, resistant to liquids and easy to clean.

Personal protective equipment:

Avoid all unnecessary exposure.

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The protective gloves to be used must comply with the specifications of the regulation 2016/425 and the resultant standard EN 374

Туре	Material	Permeation	Thickness (mm)	Penetration	Standard
Disposable gloves	Fluoroelastomer (FKM)	6 (> 480 minutes)	0.7		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.

Туре	Use	Characteristics	Standard
Safety goggles, Face shield	Droplet, vapours	tightly fitting safety goggles, With side shields	EN 166

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

Туре	Standard
Total impervious protective suits, gloves, and boots must be worn to prevent any contact with the product, Flame retardant antistatic	EN 14605
protective clothing	

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
Air-Purifying Respirator (APR), reusable	ABEK	Moist condition, Mist formation, Protection for Liquid particles, Vapour protection	EN 14387

Other information:

Explosive properties

Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid
Appearance : Clear.
Molecular mass : 217.43 g/mol

Colour : Colourless. light yellow. Pale grey.
Odour : No data available.

Odour threshold : No data available : No data available Relative evaporation rate (butylacetate=1) : No data available Melting point : No data available : No data available Freezing point Boiling point : No data available Flash point : -25 °C closed cup Auto-ignition temperature : No data available : No data available Decomposition temperature Flammability (solid, gas) : Flammable Vapour pressure : No data available Relative vapour density at 20 °C No data available Relative density : No data available Density : 0.863 g/cm³ Solubility : No data available Log Pow : No data available : No data available Viscosity, kinematic : No data available Viscosity, dynamic

: No data available

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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

Flammable liquid and vapour. Reacts violently with water.

10.2. Chemical stability

Flammable liquid and vapour. May form flammable/explosive vapour-air mixture. May form explosive peroxides.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Protect from sunlight. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Air contact. Moisture.

Water, humidity.

10.5. Incompatible materials

Strong oxidizers. Strong acids.

10.6. Hazardous decomposition products

No hazardous decomposition products known at room temperature. Thermal decomposition generates: Carbon oxides (CO, CO2). Magnesium oxide fumes.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Oral: Harmful if swallowed.

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

ATE CLP (oral) 500 mg/kg bodyweight

Diethyl Ether (60-29-7)	
LD50 oral rat	1200 - 3560 mg/kg bodyweight
LC50 inhalation rat (ppm)	32000 ppm/4h
Skin corrosion/irritation	: Causes severe skin burns and eye damage.

Additional information : Based on available data, the classification criteria are not met

Serious eye damage/irritation : Serious eye damage, category 1, implicit

Additional information : Based on available data, the classification criteria are not met

Respiratory or skin sensitisation : Not classified

Additional information : Based on available data, the classification criteria are not met

Germ cell mutagenicity : Not classified

Additional information : Based on available data, the classification criteria are not met

Carcinogenicity : Not classified

Additional information : Based on available data, the classification criteria are not met

Reproductive toxicity : Not classified

Additional information : Based on available data, the classification criteria are not met

STOT-single exposure : Not classified

Additional information : Based on available data, the classification criteria are not met

STOT-repeated exposure : Not classified

Additional information : Based on available data, the classification criteria are not met

Aspiration hazard : Not classified

Additional information : Based on available data, the classification criteria are not met Potential adverse human health effects and symptoms : Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

12.1. Toxicity

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

Dieth	yl Ether ((60-29-7)
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LC50 fish 1 2560 mg/l 96hr Pimephales promelas (fathead minnow)

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EC50 Daphnia 1	165 mg/l 24h
EC50 72h algae (1)	100 mg/l 72h
NOEC (chronic)	100 mg/l 21days

12.2. Persistence and degradability

(2-Ethylhexyl)magnesium Bromide solution 1M in Diethyl Ether (90224-21-8)

Persistence and degradability No data available

Diethyl Ether (60-29-7)

Persistence and degradability Not biodegradable.

12.3. Bioaccumulative potential

(2-Ethylhexyl)magnesium Bromide solution 1M in Diethyl Ether (90224-21-8)

No data available. Bioaccumulative potential

Diethyl Ether (60-29-7)

Log Pow	1.05 @20.C
Bioaccumulative potential	Not potentially bioaccumulable.

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

(2-Ethylhexyl)magnesium Bromide solution 1M in Diethyl Ether (90224-21-8)

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII

This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

12.6. Other adverse effects

Additional information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product/Packaging disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.

Additional information : Handle empty containers with care because residual vapours are flammable.

Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN						
ADR	IMDG	IATA	ADN	RID		
14.1. UN number						
2924	2924	2924	2924	2924		
14.2. UN proper shipping name						
FLAMMABLE LIQUID, CORROSIVE, N.O.S.	FLAMMABLE LIQUID, CORROSIVE, N.O.S.	Flammable liquid, corrosive, n.o.s.	FLAMMABLE LIQUID, CORROSIVE, N.O.S.	FLAMMABLE LIQUID, CORROSIVE, N.O.S.		
Transport document description						
UN 2924 FLAMMABLE LIQUID, CORROSIVE, N.O.S. ((2- Ethylhexyl)magnesium Bromide solution 1M in Diethyl Ether), 3 (8), I, (C/E)	UN 2924 FLAMMABLE LIQUID, CORROSIVE, N.O.S. ((2- Ethylhexyl))magnesium Bromide solution 1M in Diethyl Ether), 3 (8), I	UN 2924 Flammable liquid, corrosive, n.o.s. ((2- Ethylhexyl)magnesium Bromide solution 1M in Diethyl Ether), 3 (8), I	UN 2924 FLAMMABLE LIQUID, CORROSIVE, N.O.S. ((2- Ethylhexyl))magnesium Bromide solution 1M in Diethyl Ether), 3 (8), I	UN 2924 FLAMMABLE LIQUID, CORROSIVE, N.O.S. ((2- Ethylhexyl))magnesium Bromide solution 1M in Diethyl Ether), 3 (8), I		
14.3. Transport hazard class(es)						
3 (8)	3 (8)	3 (8)	3 (8)	3 (8)		
3	3	3	3	3		

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14.4. Packing group						
I	I	I	I	I		
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	on available					
IA C. Chaolial presentions for upon						

14.6. Special precautions for user

Overland transport

Classification code (ADR) : FC : 274 Special provisions (ADR) : 0 Limited quantities (ADR) Excepted quantities (ADR) : E0 : P001 Packing instructions (ADR) : MP7, MP17 Mixed packing provisions (ADR) : T14

Portable tank and bulk container instructions

(ADR)

Portable tank and bulk container special provisions

(ADR)

: L10CH Tank code (ADR) Tank special provisions (ADR) : TU14, TE21

Vehicle for tank carriage : FL Transport category (ADR) Special provisions for carriage - Operation (ADR) : S2, S20

Hazard identification number (Kemler No.) : 338

Orange plates

338 2924

: TP2

Tunnel restriction code (ADR) : C/E EAC code : •3WE APP code : A(fl)

Transport by sea

Special provisions (IMDG) : 274 Packing instructions (IMDG) : P001 Tank instructions (IMDG) : T14 Tank special provisions (IMDG) : TP2 EmS-No. (Fire) : F-E EmS-No. (Spillage) : S-C Stowage category (IMDG) : E Stowage and handling (IMDG) : SW2

Properties and observations (IMDG) : Causes burns to skin, eyes and mucous membranes.

Air transport

PCA Excepted quantities (IATA) : E0 PCA Limited quantities (IATA) : Forbidden PCA limited quantity max net quantity (IATA) : Forbidden PCA packing instructions (IATA) : 350 PCA max net quantity (IATA) : 0.5L : 360 CAO packing instructions (IATA) CAO max net quantity (IATA) : 2.5L Special provisions (IATA) : A3, A803 ERG code (IATA) : 3CH

Inland waterway transport

Classification code (ADN) : FC : 274 Special provisions (ADN) Limited quantities (ADN) : 0 Excepted quantities (ADN) : E0

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Carriage permitted (ADN)

Equipment required (ADN) : PP, EP, EX, A

Ventilation (ADN) : VE01 Number of blue cones/lights (ADN) • 1

Rail transport

Classification code (RID) : FC Special provisions (RID) : 274 Limited quantities (RID) : 0 Excepted quantities (RID) : E0 Packing instructions (RID) · P001 Mixed packing provisions (RID) : MP7, MP17 Portable tank and bulk container instructions (RID) : T14

Portable tank and bulk container special provisions

(RID)

Tank codes for RID tanks (RID) : L10CH

Special provisions for RID tanks (RID) : TU14, TU38, TE21, TE22

Transport category (RID) : 1 Hazard identification number (RID) : 338

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

: TP2

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

Germany

: Water hazard class (WGK) 3, Highly hazardous to water (Classification according to AwSV, Reference to AwSV

Annex 1)

12th Ordinance Implementing the Federal

Immission Control Act - 12.BlmSchV

: Is not subject of the 12. BlmSchV (Hazardous Incident Ordinance)

SZW-liist van kankerverwekkende stoffen None of the components are listed SZW-lijst van mutagene stoffen : None of the components are listed NIET-limitatieve lijst van voor de voortplanting : None of the components are listed

giftige stoffen - Borstvoeding

: None of the components are listed

NIET-limitatieve lijst van voor de voortplanting

giftige stoffen - Vruchtbaarheid

: None of the components are listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen - Ontwikkeling

Denmark

Class for fire hazard : Add boilingpoint Store unit : Add boilingpoint

Classification remarks : Add boilingpoint; Emergency management guidelines for the storage of flammable liquids

must be followed

Danish National Regulations : Young people below the age of 18 years are not allowed to use the product

15.2. Chemical safety assessment

No chemical safety assessment has been carried out for the substance or the mixture by the supplier

SECTION 16: Other information

REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 Data sources

> December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

Other information : None.

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Full text of H- and EUH-statements:		
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4	
Flam. Liq. 1	Flammable liquids, Category 1	
Skin Corr. 1	Skin corrosion/irritation, Category 1	
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Narcosis	
H224	Extremely flammable liquid and vapour.	
H302	Harmful if swallowed.	
H314	Causes severe skin burns and eye damage.	
H336	May cause drowsiness or dizziness.	
EUH014	Reacts violently with water.	
EUH019	May form explosive peroxides.	

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.