



Safety Data Sheet



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

### Date of issue: 3/12/2019 Version: 1.0

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

1.1. Product identifier

Product form : Substance Substance name : 1-Bromoethane

Chemical name : bromoethane; ethyl bromide

**IUPAC** name : bromoethane EC Index-No. : 602-055-00-1 EC-No. : 200-825-8 CAS-No. : 74-96-4 Product code : 25931461 Product group · Raw material

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

### 1.2.1. Relevant identified uses

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

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

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

**Emergency number** : +44 (0) 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 Carcinogenicity, Category 2 H351 Acute toxicity (inhal.), Category 4 H332 H302 Acute toxicity (oral), Category 4

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

GHS08

**GHS07** 

Signal word (CLP) : Danger

: H225 - Highly flammable liquid and vapour. Hazard statements (CLP)

H302 - Harmful if swallowed. H332 - Harmful if inhaled.

H351 - Suspected of causing cancer.

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

No smoking.

P264 - Wash hands, hands, forearms and face thoroughly after handling.

P280 - Wear protective clothing, eye protection, face protection, protective gloves. P301+P312 - IF SWALLOWED: Call a POISON CENTRE or doctor if you feel unwell. P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.

## 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

EN (English) 1/8

## Safety Data Sheet

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

\*\*\* DRAFT \*\*\*

SECTION 3: Composition/information on ingredients				
3.1. Substances				
Name	Product identifier	%		
1-Bromoethane	(CAS-No.) 74-96-4 (EC-No.) 200-825-8 (EC Index-No.) 602-055-00-1	100		

Full text of H-statements: see section 16

#### 3.2. Mixtures

Not applicable

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#### 4.1. Description of first aid measures

First-aid measures general

First-aid measures after inhalation

: 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 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.

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

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

Symptoms/effects after inhalation

: May cause irritation to the respiratory tract, sneezing, coughing, burning sensation of throat with constricting sensation of the larynx and difficulty in breathing. Headache. May be

harmful if inhaled. More severe symptoms are also possible.

Symptoms/effects after skin contact : May cause skin irritation. May be harmful in contact with skin. Redness, pain. More severe

symptoms are also possible.

Symptoms/effects after eye contact : May cause severe irritation. Blurred vision. redness, itching, tears. stinging. More severe

symptoms are also possible.

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

drowsiness, weakness, headache, dizziness, nausea, vomiting. More severe symptoms

are also possible.

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

Immediately call a POISON CENTER/doctor.

#### **SECTION 5: Firefighting measures**

### 5.1. Extinguishing media

Suitable extinguishing media : Foam. Dry powder. Carbon dioxide. Water spray. Sand.

Unsuitable extinguishing media : Do not use a heavy water stream.

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

Fire hazard : Highly flammable liquid and vapour.

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

Hazardous decomposition products in case of fire : Carbon oxides (CO, CO2). hydrogen bromide.

### 5.3. Advice for firefighters

Precautionary measures fire : Exposure to fire/heat: seal off low-lying areas. Keep container tightly closed and away from

heat, sparks and flame. Keep away from combustible materials.

Firefighting instructions : Evacuate area. Eliminate all ignition sources if safe to do so. Fight fire from safe distance

and protected location. Use water spray or fog for cooling exposed containers. Use

extinguishing agent suitable for surrounding fire. Keep upwind.

Protection during firefighting : 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 : Remove ignition sources. Use special care to avoid static electric charges. No open

flames. No smoking.

### 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. Evacuate area. Mark out the contaminated area with signs and prevent access to unauthorized personnel. Do not breathe vapours. Do

area with signs and prevent access to unauthorized personnel. Do not breathe vapours. Do not get in eyes, on skin, or on clothing. Turn leaking containers leak-side up to prevent the

escape of liquid.

## Safety Data Sheet

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

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.

Collect spillage. Store away from other materials.

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

Hygiene measures

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

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.

: 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. 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 : Direct

sunlight, Heat sources. Light sensitive. Moisture sensitive.

Incompatible products : Strong oxidisers. Strong bases. magnesium. Potassium. calcium oxide. Sodium Oxides.

Aluminium. zinc. Alkali metals.

Incompatible materials : Sources of ignition. Direct sunlight. Heat sources. Light. Moisture. Water, humidity.

Storage temperature : 2 - 8 °C

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

smoking.

Storage area : Store in an explosion-poof refregerator. . Store in dry protected location to prevent any

moisture contact. Store in a dark area.

7.3. Specific end use(s)

No additional information available

# SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Exposure controls

Personal protective equipment:

Avoid all unnecessary exposure.

Hand protection:

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

Туре	Material	Permeation	Thickness (mm)	Penetration	Standard
Disposable gloves	Fluoroelastomer (FKM)	6 (> 480 minutes)	0.7		EN 374

#### Eve protection:

Chemical goggles or face shield. 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.

## Safety Data Sheet

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

\*\*\* DRAFT \*\*\*

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 protective clothing	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. Wear appropriate mask

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:

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
Molecular mass : 108.97 g/mol

Colour : Clear colourless-pale yellow.

Odour : No data available. Odour threshold : No data available : No data available pН Relative evaporation rate (butylacetate=1) : No data available : -119 °C lit. Melting point Freezing point : No data available : 37 - 40 °C Boiling point : -23 °C Flash point

Auto-ignition temperature : No data available Decomposition temperature : No data available Flammability (solid, gas) · No data available Vapour pressure : 519.7 hPa at 20 °C Relative vapour density at 20 °C : No data available Relative density : 1.46 g/mL at 25 °C Solubility : No data available 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 Lower explosive limit (LEL) : 6.75 vol % Upper explosive limit (UEL) : 11.25 vol %

### 9.2. Other information

No additional information available

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

## 10.1. Reactivity

Highly flammable liquid and vapour.

### 10.2. Chemical stability

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

## 10.3. Possibility of hazardous reactions

Stable under normal conditions of use.

## Safety Data Sheet

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

\*\*\* DRAFT \*\*\*

#### 10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures. Open flame. Light. Moisture. Water, humidity.

#### 10.5. Incompatible materials

Strong bases. Strong oxidizers. magnesium. Potassium. calcium oxide. Sodium Oxides. Aluminium. zinc. Alkali metals.

#### 10.6. Hazardous decomposition products

No hazardous decomposition products known at room temperature. Thermal decomposition generates : hydrogen bromide. Carbon oxides (CO, CO2).

#### **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) : Inhalation: Harmful if inhaled.

### 1-Bromoethane (74-96-4)

LD50 oral rat 1350 mg/kg

Skin corrosion/irritation : Not classified

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

Serious eye damage/irritation : Not classified

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 : Suspected of causing cancer.

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 : Harmful if swallowed.

symptoms

## **SECTION 12: Ecological information**

### 12.1. Toxicity

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

# 1-Bromoethane (74-96-4)

EC50 72h algae (1) 200 mg/l Pseudokirchneriella subcapitata

# 12.2. Persistence and degradability

## 1-Bromoethane (74-96-4)

Persistence and degradability No data available.

## 12.3. Bioaccumulative potential

## 1-Bromoethane (74-96-4)

Bioaccumulative potential No data available.

### 12.4. Mobility in soil

No additional information available

### 12.5. Results of PBT and vPvB assessment

#### 1-Bromoethane (74-96-4)

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.

# Safety Data Sheet

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

\*\*\* DRAFT \*\*\*

### **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 : 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

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ADR	IMDG	IATA	ADN	RID	
14.1. UN number					
1891	1891	1891	1891	1891	
14.2. UN proper shippin	g name				
ETHYL BROMIDE	ETHYL BROMIDE	Ethyl bromide	ETHYL BROMIDE	ETHYL BROMIDE	
Transport document descr	iption				
UN 1891 ETHYL BROMIDE (1-Bromoethane), 6.1, II, (D/E)	UN 1891 ETHYL BROMIDE (1-Bromoethane), 6.1, II	UN 1891 Ethyl bromide (1- Bromoethane), 6.1, II	UN 1891 ETHYL BROMIDE (1-Bromoethane), 6.1, II	UN 1891 ETHYL BROMIDE (1-Bromoethane), 6.1, II	
14.3. Transport hazard	class(es)				
6.1	6.1	6.1	6.1	6.1	
6	6	6	6	6	
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					

#### No supplementary information available

# 14.6. Special precautions for user

### **Overland transport**

Classification code (ADR) : T1
Limited quantities (ADR) : 100ml
Excepted quantities (ADR) : E4
Packing instructions (ADR) : P001

Packing instructions (ADR) : P001, IBC02

Special packing provisions (ADR) : B8

Mixed packing provisions (ADR) : MP15

Portable tank and bulk container instructions (ADR) : T7

Portable tank and bulk container special provisions

(ADR)

Orange plates

Tank code (ADR) : L4BH
Tank special provisions (ADR) : TU15, TE19

Vehicle for tank carriage : AT
Transport category (ADR) : 2

Special provisions for carriage - Loading, : CV13, CV28

unloading and handling (ADR)

Special provisions for carriage - Operation (ADR) : S9, S19 Hazard identification number (Kemler No.) : 60



: TP2

## Safety Data Sheet

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

Tunnel restriction code (ADR) : D/E EAC code : 2W

Transport by sea

Packing instructions (IMDG) : P001 IBC packing instructions (IMDG) : IBC02 IBC special provisions (IMDG) : B8 Tank instructions (IMDG) : T7 Tank special provisions (IMDG) : TP2, TP13 EmS-No. (Fire) : F-A EmS-No. (Spillage) : S-A : B Stowage category (IMDG)

Stowage and handling (IMDG) : SW2, SW5

Properties and observations (IMDG) : Colourless volatile liquid evolving irritating vapour with a narcotic effect. Boiling point: 38°C.

Vapour can be ignited by an electric spark or similar sources of ignition. Toxic if swallowed,

\*\*\* DRAFT \*\*\*

by skin contact or by inhalation.

Air transport

PCA Excepted quantities (IATA) : E4 PCA Limited quantities (IATA) : Y641 PCA limited quantity max net quantity (IATA) : 1L PCA packing instructions (IATA) : 654 PCA max net quantity (IATA) · 5I CAO packing instructions (IATA) : 662 CAO max net quantity (IATA) : 60L ERG code (IATA) : 6L

Inland waterway transport

Classification code (ADN) : T1
Special provisions (ADN) : 802
Limited quantities (ADN) : 100 ml
Excepted quantities (ADN) : E4

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

Ventilation (ADN) : VE02 Number of blue cones/lights (ADN) : 2

Rail transport

Classification code (RID) : T1
Excepted quantities (RID) : E4

Packing instructions (RID) : P001, IBC02

Special packing provisions (RID) : B8

Mixed packing provisions (RID) : MP15

Portable tank and bulk container instructions (RID) : T7

Portable tank and bulk container special provisions (RID)

Tank codes for RID tanks (RID) : L4BH
Special provisions for RID tanks (RID) : TU15
Transport category (RID) : 2

Special provisions for carriage - Loading,

unloading and handling (RID)

: CW13, CW28, CW31

Colis express (express parcels) (RID) : CE5
Hazard identification number (RID) : 60

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

No REACH Annex XVII restrictions

1-Bromoethane is not on the REACH Candidate List

Directive 2012/18/EU (SEVESO III)

## Safety Data Sheet

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

\*\*\* DRAFT \*\*\*

### 15.1.2. National regulations

#### Germany

Reference to AwSV : Water hazard class (WGK) 1, Slightly hazardous to water (Classification according to

AwSV; ID No. 2273)

12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV

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

**Netherlands** 

SZW-lijst van kankerverwekkende stoffen : The substance is not listed SZW-lijst van mutagene stoffen : The substance is not listed NIET-limitatieve lijst van voor de voortplanting : The substance is not listed

giftige stoffen – Borstvoeding

gittige stoller – Borstvoeding

NIET-limitatieve lijst van voor de voortplanting

giftige stoffen - Vruchtbaarheid

NIET-limitatieve lijst van voor de voortplanting

giftige stoffen - Ontwikkeling

: The substance is not listed

: The substance is not listed

Denmark

Classification remarks : 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

Pregnant/breastfeeding women working with the product must not be in direct contact with

the product

The requirements from the Danish Working Environment Authorities regarding work with

carcinogens must be followed during use and disposal

## 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**

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

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.

Full text of H- and EUH-statements:		
Acute Tox. 4 (Inhalation)	Acute toxicity (inhal.), Category 4	
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4	
Carc. 2	Carcinogenicity, Category 2	
Flam. Liq. 2	Flammable liquids, Category 2	
H225	Highly flammable liquid and vapour.	
H302	Harmful if swallowed.	
H332	Harmful if inhaled.	
H351	Suspected of causing cancer.	

### 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.