

1,2-Dibromoethane

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830
Date of issue: 9/30/2019 Version: 1.0

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

1.1. Product identifier

Product form	: Substance
Substance name	: 1,2-Dibromoethane
Chemical name	: 1,2-dibromoethane
EC Index-No.	: 602-010-00-6
EC-No.	: 203-444-5
CAS-No.	: 106-93-4
Product code	: 90028975
Formula	: C2H4Br2
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
Use of the substance/mixture	: For analytical purposes Scientific research and development Not for human consumption or veterinary purposes.

1.2.2. Uses advised against

Restrictions on use	: Pesticides, Contains substances subject to PIC Regulation
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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

Emergency number	: +44 (0) 7590 545705
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SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Carcinogenicity, Category 1B	H350
Acute toxicity (inhal.), Category 3	H331
Acute toxicity (dermal), Category 3	H311
Acute toxicity (oral), Category 3	H301
Serious eye damage/eye irritation, Category 2	H319
Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation	H335
Skin corrosion/irritation, Category 2	H315
Hazardous to the aquatic environment — Chronic Hazard, Category 2	H411
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)



GHS06

GHS08

GHS09

Signal word (CLP)

: Danger

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Hazard statements (CLP)	: H301 - Toxic if swallowed. H311 - Toxic in contact with skin. H315 - Causes skin irritation. H319 - Causes serious eye irritation. H331 - Toxic if inhaled. H335 - May cause respiratory irritation. H350 - May cause cancer. H411 - Toxic to aquatic life with long lasting effects.
Precautionary statements (CLP)	: P273 - Avoid release to the environment. P280 - Wear protective gloves/protective clothing/eye protection/face protection. P301+P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor. P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P308+P313 - IF exposed or concerned: Get medical advice/attention.

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

SECTION 3: Composition/information on ingredients

3.1. Substances

Name	Product identifier	%
1,2-Dibromoethane	(CAS-No.) 106-93-4 (EC-No.) 203-444-5 (EC Index-No.) 602-010-00-6	100

Full text of H-statements: see section 16

3.2. Mixtures

Not applicable

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.
First-aid measures after inhalation	: 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	: Toxic if inhaled. May cause irritation to the respiratory tract, sneezing, coughing, burning sensation of throat with constricting sensation of the larynx and difficulty in breathing. Headache. More severe symptoms are also possible.
Symptoms/effects after skin contact	: Causes skin irritation. Redness, pain. More severe symptoms are also possible. Toxic in contact with skin.
Symptoms/effects after eye contact	: May cause severe irritation. Blurred vision. redness, itching, tears. stinging.
Symptoms/effects after ingestion	: Toxic if swallowed. Swallowing a small quantity of this material will result in serious health hazard. Symptoms of ingestion include drowsiness, weakness, headache, dizziness, nausea, vomiting. More severe symptoms are also possible.
Chronic symptoms	: May cause cancer.

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

Hazardous decomposition products in case of fire	: Carbon oxides (CO, CO ₂). hydrogen bromide.
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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	: Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire fighting water from entering the environment.

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Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.
Other information : Warn all persons of toxic hazard.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Isolate from fire, if possible, without unnecessary risk. Do not breathe gas, fumes, vapour or spray. No flames, no sparks. Eliminate all sources of ignition.

6.1.1. For non-emergency personnel

Protective equipment : Wear recommended personal protective equipment.
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).

6.1.2. For emergency responders

Protective equipment : Equip cleanup crew with proper protection. 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

Precautions for safe handling : Avoid formation of vapours. Provide local exhaust or general room ventilation.
Hygiene measures : Take off immediately all contaminated clothing and wash it before reuse. 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.
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. Light sensitive.
Incompatible products : Strong oxidizing agents. magnesium. Alkali metals.
Incompatible materials : Sources of ignition. Direct sunlight. Heat sources. Light sensitive.
Heat and ignition sources : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Storage area : Store below 20 °C. Store in a dry place. Store in a closed container.

7.3. Specific end use(s)

For analytical purposes. Scientific research and development. Not for human consumption or veterinary purposes.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

1,2-Dibromoethane (106-93-4)		
United Kingdom	Local name	1,2-Dibromoethane (Ethylene dibromide)
United Kingdom	WEL TWA (mg/m ³)	3.9 mg/m ³
United Kingdom	WEL TWA (ppm)	0.5 ppm
United Kingdom	Remark (WEL)	Carc (Capable of causing cancer and/or heritable genetic damage), 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	EH40/2005 (Third edition, 2018). 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.

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Personal protective equipment:

Avoid all unnecessary exposure.

Materials for protective clothing:					
Wear suitable protective clothing, gloves and eye/face protection					
Hand protection:					
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
Disposable gloves	Nitrile rubber (NBR)	6 (> 480 minutes)	0.11		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.					
Type	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					
Type				Standard	
Total impervious protective suits, gloves, and boots must be worn to prevent any contact with the product				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		
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
Appearance	: Clear.
Molecular mass	: 187.86 g/mol
Colour	: colourless to yellow.
Odour	: No data available.
Odour threshold	: No data available
pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: 8 - 11 °C lit.
Freezing point	: No data available
Boiling point	: 131 - 132 lit.
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: Non flammable.
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: 2.18 g/mL
Solubility	: No data available
Log Pow	: No data available
Viscosity, kinematic	: No data available

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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

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

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

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. Light sensitive.

10.5. Incompatible materials

Strong oxidizers. Alkali metals. magnesium.

10.6. Hazardous decomposition products

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

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	: Oral: Toxic if swallowed.
Acute toxicity (dermal)	: Dermal: Toxic in contact with skin.
Acute toxicity (inhalation)	: Inhalation: Toxic if inhaled.

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LD50 oral rat	140 mg/kg
LD50 dermal rabbit	300 mg/kg
Skin corrosion/irritation	: Causes skin irritation.
Additional information	: Based on available data, the classification criteria are not met
Serious eye damage/irritation	: Causes serious eye irritation.
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	: May cause cancer.
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	: May cause respiratory irritation.
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	: Toxic to aquatic life with long lasting effects.

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LC50 fish 1	1.13 mg/l <i>Oncorhynchus mykiss</i> (rainbow trout) 96hr
EC50 Daphnia 1	11.61 mg/l <i>Daphnia magna</i> (Water flea) 48hr

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12.2. Persistence and degradability

1,2-Dibromoethane (106-93-4)

Persistence and degradability : No data available.

12.3. Bioaccumulative potential

1,2-Dibromoethane (106-93-4)

Bioaccumulative potential : No data available.

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

1,2-Dibromoethane (106-93-4)

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.

SECTION 13: Disposal considerations





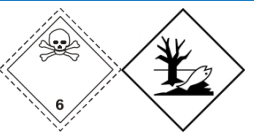
13.1. Waste treatment methods

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

Ecology - waste materials : Avoid release to the environment. Hazardous waste due to toxicity.

SECTION 14: Transport information

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

ADR	IMDG	IATA	ADN	RID
14.1. UN number				
1605	1605	1605	1605	1605
14.2. UN proper shipping name				
ETHYLENE DIBROMIDE	ETHYLENE DIBROMIDE	Ethylene dibromide	ETHYLENE DIBROMIDE	ETHYLENE DIBROMIDE
Transport document description				
UN 1605 ETHYLENE DIBROMIDE, 6.1, I, (C/D), ENVIRONMENTALLY HAZARDOUS	UN 1605 ETHYLENE DIBROMIDE, 6.1, I, MARINE POLLUTANT/ENVIRONMENTALLY HAZARDOUS	UN 1605 Ethylene dibromide, 6.1, ENVIRONMENTALLY HAZARDOUS	UN 1605 ETHYLENE DIBROMIDE, 6.1, I, ENVIRONMENTALLY HAZARDOUS	UN 1605 ETHYLENE DIBROMIDE, 6.1, I, ENVIRONMENTALLY HAZARDOUS
14.3. Transport hazard class(es)				
6.1	6.1	6.1	6.1	6.1
				
14.4. Packing group				
I	I	Not applicable	I	I
14.5. Environmental hazards				
Dangerous for the environment : Yes	Dangerous for the environment : Yes Marine pollutant : Yes	Dangerous for the environment : Yes	Dangerous for the environment : Yes	Dangerous for the environment : Yes

No supplementary information available

14.6. Special precautions for user

Overland transport

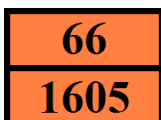
Classification code (ADR) : T1
Special provisions (ADR) : 354
Limited quantities (ADR) : 0
Excepted quantities (ADR) : E0
Packing instructions (ADR) : P602

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Mixed packing provisions (ADR)	: MP8, MP17
Portable tank and bulk container instructions (ADR)	: T20
Portable tank and bulk container special provisions (ADR)	: TP2
Tank code (ADR)	: L10CH
Tank special provisions (ADR)	: TU14, TU15, TE19, TE21
Vehicle for tank carriage	: AT
Transport category (ADR)	: 1
Special provisions for carriage - Loading, unloading and handling (ADR)	: CV1, CV13, CV28
Special provisions for carriage - Operation (ADR)	: S9, S14
Hazard identification number (Kemler No.)	: 66
Orange plates	:



Tunnel restriction code (ADR)	: C/D
EAC code	: 2X
APP code	: B

Transport by sea

Special provisions (IMDG)	: 354
Packing instructions (IMDG)	: P602
Tank instructions (IMDG)	: T20
Tank special provisions (IMDG)	: TP2, TP13, TP37
EmS-No. (Fire)	: F-A
EmS-No. (Spillage)	: S-A
Stowage category (IMDG)	: D
Stowage and handling (IMDG)	: SW2
Properties and observations (IMDG)	: Colourless, volatile liquid. Highly toxic if swallowed, by skin contact or by inhalation.

Air transport

PCA Limited quantities (IATA)	: Forbidden
PCA limited quantity max net quantity (IATA)	: Forbidden
PCA packing instructions (IATA)	: Forbidden
PCA max net quantity (IATA)	: Forbidden
CAO packing instructions (IATA)	: Forbidden
CAO max net quantity (IATA)	: Forbidden
ERG code (IATA)	: 6L

Inland waterway transport

Classification code (ADN)	: T1
Special provisions (ADN)	: 354, 802
Limited quantities (ADN)	: 0
Excepted quantities (ADN)	: E0
Carriage permitted (ADN)	: T
Equipment required (ADN)	: PP, EP, TOX, A
Ventilation (ADN)	: VE02
Number of blue cones/lights (ADN)	: 2

Rail transport

Classification code (RID)	: T1
Special provisions (RID)	: 354
Limited quantities (RID)	: 0
Excepted quantities (RID)	: E0
Packing instructions (RID)	: P602
Mixed packing provisions (RID)	: MP8, MP17
Portable tank and bulk container instructions (RID)	: T20
Portable tank and bulk container special provisions (RID)	: TP2
Tank codes for RID tanks (RID)	: L10CH
Special provisions for RID tanks (RID)	: TU14, TU15, TU38, TE21, TE22

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Transport category (RID) : 1
Special provisions for carriage - Loading, unloading and handling (RID) : CW13, CW28, CW31
Hazard identification number (RID) : 66

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

1,2-Dibromoethane is not on the REACH Candidate List

Other information, restriction and prohibition regulations : Contains substances subject to PIC Regulation.

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 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. 3 (Dermal)	Acute toxicity (dermal), Category 3
Acute Tox. 3 (Inhalation)	Acute toxicity (inhal.), Category 3
Acute Tox. 3 (Oral)	Acute toxicity (oral), Category 3
Aquatic Chronic 2	Hazardous to the aquatic environment — Chronic Hazard, Category 2
Carc. 1B	Carcinogenicity, Category 1B
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Skin Irrit. 2	Skin corrosion/irritation, Category 2
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation
H301	Toxic if swallowed.
H311	Toxic in contact with skin.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H335	May cause respiratory irritation.
H350	May cause cancer.
H411	Toxic to aquatic life with long lasting effects.

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.