Vinylbromide

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878
Reference number: EIGA124
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SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form	:	Substance
Name	:	Vinylbromide
Trade name	:	bromoethylene
EC Index-No.	:	602-024-00-2
EC-No.	:	209-800-6
CAS-No.	:	593-60-2
REACH registration No	:	Registration not required. Substance manufactured or imported <1T/y for non-intermediate uses.
Product code	:	000010021705
Formula	:	C2H3Br

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

1.2.1. Relevant identified uses

Relevant identified uses	:	Industrial use. Perform risk assessment prior to use. Test gas/Calibration gas. Chemical reaction / Synthesis. Laboratory use.
Use of the substance/mixture	:	Formulation of mixtures with gas in pressure receptacles.

1.2.2. Uses advised against

Uses advised against	:	Consumer use. Uses other than those listed above are not supported, contact your supplier for more information on other uses.

1.3. Details of the supplier of the safety data sheet

Linde Gas GmbH
Carl-von-Linde-Platz 1
A-4651 Stadl-Paura
Austria
T +43 50 4273
office@at.linde-gas.com

1.4. Emergency telephone number

Emergency number	:	UMCO/NCEC: +44 1865 407333 (English); +49 89 220 61012 (German)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Physical hazards	Flammable gases, Category 1A, Chemically unstable gas B	H220;H231
	Gases under pressure : Liquefied gas	H280

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Health hazards	Carcinogenicity, Category 1B	H350

Full text of H- and EUH-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 GHS04 GHS08

Signal word (CLP) : Danger

Hazard statements (CLP) : H220 - Extremely flammable gas.
H231 - May react explosively even in the absence of air at elevated pressure and/or temperature.
H280 - Contains gas under pressure; may explode if heated.
H350 - May cause cancer.

Precautionary statements (CLP)

- Prevention : P202 - Do not handle until all safety precautions have been read and understood.
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- Response : P308+P313 - IF exposed or concerned: Get medical advice/attention.
P377 - Leaking gas fire: Do not extinguish, unless leak can be stopped safely.
P381 - In case of leakage, eliminate all ignition sources.
- Storage : P410+P403 - Protect from sunlight. Store in a well-ventilated place.

Supplemental information : Restricted to professional users.

2.3. Other hazards

Other hazards : Not classified as PBT or vPvB. The substance/mixture has no endocrine disrupting properties.

SECTION 3: Composition/information on ingredients

3.1. Substances

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Vinylbromide	CAS-No.: 593-60-2 EC-No.: 209-800-6 EC Index-No.: 602-024-00-2	100	Flam. Gas 1A - Chem. Unst. Gas B, H220;H231 Press. Gas (Liq.), H280 Carc. 1B, H350

Full text of H- and EUH-statements: see section 16

Contains no other components or impurities which will influence the classification of the product.

**1: Listed in Annex IV / V REACH, exempted from registration.*

**3: Registration not required: Substance manufactured or imported < 1t/y.*

3.2. Mixtures

Not applicable

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SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : Remove victim to uncontaminated area wearing self contained breathing apparatus. Keep victim warm and rested. Call a doctor. Perform cardiopulmonary resuscitation if breathing stopped.

First-aid measures after skin contact : Adverse effects not expected from this product.

First-aid measures after eye contact : Immediately flush eyes thoroughly with water for at least 15 minutes.

First-aid measures after ingestion : Ingestion is not considered a potential route of exposure.

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

Most important symptoms and effects, both acute and delayed : See section 11.

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

None.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Dry powder. Carbon dioxide. Shutting off the source of the gas is the preferred method of control. Water spray or fog. Be aware of the risk of formation of static electricity with the use of CO2 extinguishers. Do not use them in places where a flammable atmosphere may be present.

Unsuitable extinguishing media : Do not use water jet to extinguish.

5.2. Special hazards arising from the substance or mixture

Reactivity in case of fire : No reactivity hazard other than the effects described in sub-sections below.

Specific hazards : Exposure to fire may cause containers to rupture/explode.

Hazardous combustion products : Carbon monoxide. Carbonyl bromide. Hydrogen bromide.

5.3. Advice for firefighters

Specific methods : Continue water spray from protected position until container stays cool.
Do not extinguish a leaking gas flame unless absolutely necessary. Spontaneous/explosive re-ignition may occur. Extinguish any other fire.
Use fire control measures appropriate for the surrounding fire. Exposure to fire and heat radiation may cause gas receptacles to rupture. Cool endangered receptacles with water spray jet from a protected position. Prevent water used in emergency cases from entering sewers and drainage systems.
If possible, stop flow of product.
Use water spray or fog to knock down fire fumes if possible.
Move containers away from the fire area if this can be done without risk.

Special protective equipment for fire fighters : Wear gas tight chemically protective clothing in combination with self contained breathing apparatus.
Standard EN 943-2: Protective clothing against liquid and gaseous chemicals, aerosols and solid particles. Gas-tight chemical protective suits for emergency teams.
Standard EN 137 - Self-contained open-circuit compressed air breathing apparatus with full face mask.

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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Act in accordance with local emergency plan. Try to stop release. Evacuate area. Eliminate ignition sources. Ensure adequate air ventilation. Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous. Stay upwind. See section 8 of the SDS for more information on personal protective equipment.

6.1.2. For emergency responders

Emergency procedures : Monitor concentration of released product. Consider the risk of potentially explosive atmospheres. Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe. See section 5.3 of the SDS for more information.

6.2. Environmental precautions

Try to stop release.

6.3. Methods and material for containment and cleaning up

Methods and material for containment and cleaning up : Ventilate area.

6.4. Reference to other sections

See also sections 8 and 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Safe use of the product : Avoid contact with aluminium.
Assess the risk of potentially explosive atmospheres and the need for explosion-proof equipment.
Purge air from system before introducing gas.
Take precautionary measures against static discharge.
Keep away from ignition sources (including static discharges).
Consider the use of only non-sparking tools.
Ensure equipment is adequately earthed.
Avoid exposure, obtain special instructions before use.
The product must be handled in accordance with good industrial hygiene and safety procedures.
Only experienced and properly instructed persons should handle gases under pressure.
Consider pressure relief device(s) in gas installations.
Ensure the complete gas system was (or is regularily) checked for leaks before use.
Do not smoke while handling product.
Use only properly specified equipment which is suitable for this product, its supply pressure and temperature. Contact your gas supplier if in doubt.
Avoid suck back of water, acid and alkalis.
Do not breathe gas.
Avoid release of product into work area.

Safe handling of the gas receptacle	:	Refer to supplier's container handling instructions. Do not allow backfeed into the container. Protect containers from physical damage; do not drag, roll, slide or drop. When moving cylinders, even for short distances, use a cart (trolley, hand truck, etc.) designed to transport cylinders. Leave valve protection caps in place until the container has been secured against either a wall or bench or placed in a container stand and is ready for use. If user experiences any difficulty operating valve discontinue use and contact supplier. Never attempt to repair or modify container valves or safety relief devices. Damaged valves should be reported immediately to the supplier. Keep container valve outlets clean and free from contaminants particularly oil and water. Replace valve outlet caps or plugs and container caps where supplied as soon as container is disconnected from equipment. Close container valve after each use and when empty, even if still connected to equipment. Never attempt to transfer gases from one cylinder/container to another. Never use direct flame or electrical heating devices to raise the pressure of a container. Do not remove or deface labels provided by the supplier for the identification of the content of the container. Suck back of water into the container must be prevented. Open valve slowly to avoid pressure shock.

7.2. Conditions for safe storage, including any incompatibilities

Conditions for safe storage, including any incompatibilities	:	Segregate from oxidant gases and other oxidants in store. All electrical equipment in the storage areas should be compatible with the risk of a potentially explosive atmosphere. Observe all regulations and local requirements regarding storage of containers. Containers should not be stored in conditions likely to encourage corrosion. Container valve guards or caps should be in place. Containers should be stored in the vertical position and properly secured to prevent them from falling over. Stored containers should be periodically checked for general condition and leakage. Keep container below 50°C in a well ventilated place. Store containers in location free from fire risk and away from sources of heat and ignition. Keep away from combustible materials.

7.3. Specific end use(s)

None.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

Vinylbromide (593-60-2)	
EU - Binding Occupational Exposure Limit (BOEL)	
Local name	Bromoethylene
BOEL TWA	4.4 mg/m³
BOEL TWA [ppm]	1 ppm
Regulatory reference	DIRECTIVE (EU) 2019/130 (amending Directive 2004/37/EC)

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Vinylbromide (593-60-2)	
Austria - Occupational Exposure Limits	
Local name	Bromethen
TRK (OEL TWA)	4.4 mg/m³
TRK (OEL TWA) [ppm]	1 ppm
Remark	Krebserzeugend: III A2
Regulatory reference	BGBl. II Nr. 156/2021

8.1.2. Recommended monitoring procedures

No additional information available

8.1.3. Air contaminants formed

No additional information available

8.1.4. DNEL and PNEC

Vinylbromide (593-60-2)	
DNEL/DMEL (additional information)	
Additional information	None available.
PNEC (additional information)	
Additional information	None available.

8.1.5. Control banding

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Appropriate engineering controls:
Provide adequate general and local exhaust ventilation. Gas detectors should be used when flammable gases/vapours may be released. Consider the use of a work permit system e.g. for maintenance activities. Product to be handled in a closed system and under strictly controlled conditions. Preferably use permanent leak-tight installations (e.g. welded pipes). Systems under pressure should be regularily checked for leakages. Ensure exposure is below occupational exposure limits (where available).

8.2.2. Personal protection equipment

Personal protective equipment:
A risk assessment should be conducted and documented in each work area to assess the risks related to the use of the product and to select the PPE that matches the relevant risk. The following recommendations should be considered: PPE compliant to the recommended EN/ISO standards should be selected.

8.2.2.1. Eye and face protection

Eye protection:
Wear goggles when transfilling or breaking transfer connections.
Standard EN 166 - Personal eye-protection - specifications

8.2.2.2. Skin protection

Hand protection:
Wear working gloves when handling gas containers.
Wear chemically resistant protective gloves.
Standard EN 374 - Protective gloves against chemicals.
Nitrile rubber (NBR).
Standard EN 388 - Protective gloves against mechanical risks, performance level 1 or higher.
Fluoroelastomer (Viton®) (FKM)

Other skin protection
Consider the use of flame resistant anti-static safety clothing.
Standard EN ISO 14116 - Limited flame spread materials.
Standard EN 1149-5 - Protective clothing: Electrostatic properties.
Wear safety shoes while handling containers.
Standard EN ISO 20345 - Personal protective equipment - Safety footwear.

Other information:
Consider the use of flame resistant anti-static safety clothing.
Standard EN ISO 14116 - Limited flame spread materials.
Standard EN 1149-5 - Protective clothing: Electrostatic properties.
Wear safety shoes while handling containers.
Standard EN ISO 20345 - Personal protective equipment - Safety footwear.

8.2.2.3. Respiratory protection

Respiratory protection:
Recommended: Filter AX (brown).
Keep self contained breathing apparatus readily available for emergency use.
Self contained breathing apparatus is recommended, where unknown exposure may be expected, e.g. during maintenance activities on installation systems.
Gas filters may be used if all surrounding conditions e.g. type and concentration of the contaminant(s) and duration of use are known.
Use gas filters with full face mask, where exposure limits may be exceeded for a short-term period, e.g. connecting or disconnecting containers.
Standard EN 137 - Self-contained open-circuit compressed air breathing apparatus with full face mask.
Gas filters do not protect against oxygen deficiency.
Standard EN 14387 - Gas filter(s), combined filter(s) and standard EN136, full face masks .

8.2.2.4. Thermal hazards

Thermal hazard protection:
None in addition to the above sections.

8.2.3. Environmental exposure controls

Environmental exposure controls:
Refer to local regulations for restriction of emissions to the atmosphere. See section 13 for specific methods for waste gas treatment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance		
Physical state	:	Gas
Colour	:	Colourless.
Form	:	Liquefied gas
Odour	:	Ethereal.
Odour threshold	:	Odour threshold is subjective and inadequate to warn of overexposure.
Melting point	:	-138 °C

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Freezing point	:	Not applicable
Boiling point	:	15.7 °C
Flammability	:	Extremely flammable gas.
Oxidising properties	:	No oxidising properties.
Explosive limits	:	Not known.
Lower explosion limit	:	5.6 vol %
Upper explosion limit	:	13.5 vol %
Flash point	:	Not applicable for gases and gas mixtures.
Auto-ignition temperature	:	> 54 °C
Decomposition temperature	:	Not applicable.
pH	:	Not applicable for gases and gas mixtures.
Viscosity, kinematic	:	No reliable data available.
Viscosity, dynamic	:	No reliable data available.
Solubility in water	:	Not known, but considered to have low solubility.
Partition coefficient n-octanol/water (Log Kow)	:	1.57
Partition coefficient n-octanol/water (Log Pow)	:	Not applicable for gas mixtures.
Vapour pressure	:	1.2 bar(a)
Vapour pressure at 50°C	:	3 bar(a)
Critical pressure	:	6630 kPa
Density	:	1.51 g/cm³ 20.0 °C
Relative density	:	1.5
Relative vapour density at 20°C	:	Not applicable.
Relative gas density	:	3.7
Particle characteristics	:	Not applicable Not applicable for gases and gas mixtures. Nanoforms are not relevant for gases and gas mixtures.

9.2. Other information

9.2.1. Information with regard to physical hazard classes

Tci	:	9 %
Critical temperature	:	199.9 °C

9.2.2. Other safety characteristics

Molecular mass	:	107 g/mol
Gas group	:	Press. Gas (Liq.)
Additional information	:	Gas/vapour heavier than air. May accumulate in confined spaces, particularly at or below ground level.

SECTION 10: Stability and reactivity

10.1. Reactivity

No reactivity hazard other than the effects described in sub-sections below.

10.2. Chemical stability

May polymerise. Inhibitor usually added. May react explosively even in the absence of air.

10.3. Possibility of hazardous reactions

Can form explosive mixture with air. May react violently with oxidants.

10.4. Conditions to avoid

May decompose violently at high temperature and/or pressure or in the presence of a catalyst. Keep away from heat/sparks/open flames/hot surfaces. – No smoking. Avoid moisture in installation systems.

10.5. Incompatible materials

Air, Oxidisers. For additional information on compatibility refer to ISO 11114.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

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

Acute toxicity	:	Toxicological effects not expected from this product if occupational exposure limit values are not exceeded.
Acute toxicity (dermal)	:	Not classified
Acute toxicity (inhalation)	:	Not classified
Skin corrosion/irritation	:	No known effects from this product. pH: Not applicable for gases and gas mixtures.
Serious eye damage/irritation	:	No known effects from this product. pH: Not applicable for gases and gas mixtures.
Respiratory or skin sensitisation	:	No known effects from this product.
Germ cell mutagenicity	:	No known effects from this product.
Carcinogenicity	:	May cause cancer.
Reproductive toxicity	:	Not classified
Toxic for reproduction : Fertility	:	No known effects from this product.
Toxic for reproduction : unborn child	:	No known effects from this product.
STOT-single exposure	:	No known effects from this product.
STOT-repeated exposure	:	No known effects from this product.
Aspiration hazard	:	Not applicable for gases and gas mixtures.

Vinylbromide (593-60-2)	
Viscosity, kinematic	No reliable data available.

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

No additional information available

11.2.2. Other information

Other information : The substance/mixture has no endocrine disrupting properties.

SECTION 12: Ecological information

12.1. Toxicity

Hazardous to the aquatic environment, short–term (acute) : Not classified

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Hazardous to the aquatic environment, long–term (chronic) : Not classified

Not rapidly degradable

Vinylbromide (593-60-2)	
LC50 96 h - Fish [mg/l]	No data available.
EC50 48h - Daphnia magna [mg/l]	No data available.
EC50 72h - Algae [mg/l]	No data available.

12.2. Persistence and degradability

Vinylbromide (593-60-2)	
Assessment	No data available.

12.3. Bioaccumulative potential

Vinylbromide (593-60-2)	
Partition coefficient n-octanol/water (Log Pow)	Not applicable for gas mixtures.
Partition coefficient n-octanol/water (Log Kow)	1.57
Assessment	No data available.

12.4. Mobility in soil

Vinylbromide (593-60-2)	
Assessment	Because of its high volatility, the product is unlikely to cause ground or water pollution. Partition into soil is unlikely.

12.5. Results of PBT and vPvB assessment

Assessment : Not classified as PBT or vPvB.

12.6. Endocrine disrupting properties

Other adverse effects : No known effects from this product.

Assessment : The substance/mixture has no endocrine disrupting properties.

12.7. Other adverse effects

Other adverse effects : No known effects from this product.

Effect on the ozone layer : No effect on the ozone layer.

Effect on global warming : No known effects from this product.

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SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods : Toxic and corrosive gases formed during combustion should be scrubbed before discharge to atmosphere. Contact supplier if guidance is required. Do not discharge into areas where there is a risk of forming an explosive mixture with air. Waste gas should be flared through a suitable burner with flash back arrestor. Ensure that the emission levels from local regulations or operating permits are not exceeded. Refer to the EIGA code of practice Doc.30 "Disposal of Gases", downloadable at http://www.eiga.eu for more guidance on suitable disposal methods. Must not be discharged to atmosphere. Return unused product in original container to supplier.

List of hazardous waste codes (from Commission Decision 2000/532/EC as amended) : 16 05 04 *: Gases in pressure containers (including halons) containing hazardous substances.

13.2. Additional information

External treatment and disposal of waste should comply with applicable local and/or national regulations.

SECTION 14: Transport information

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

ADR	IMDG	IATA	ADN	RID
14.1. UN number or ID number				
UN 1085	UN 1085	UN 1085	UN 1085	UN 1085
14.2. UN proper shipping name				
VINYL BROMIDE, STABILIZED	VINYL BROMIDE, STABILIZED	Vinyl bromide, stabilized	VINYL BROMIDE, STABILIZED	VINYL BROMIDE, STABILIZED
Transport document description				
UN 1085 VINYL BROMIDE, STABILIZED, 2.1, (B/D)	UN 1085 VINYL BROMIDE, STABILIZED, 2.1	UN 1085 Vinyl bromide, stabilized, 2.1	UN 1085 VINYL BROMIDE, STABILIZED, 2.1	UN 1085 VINYL BROMIDE, STABILIZED, 2.1
14.3. Transport hazard class(es)				
2.1	2.1	2.1	2.1	2.1
				
14.4. Packing group				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
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				

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14.6. Special precautions for user

Special transport precautions	:	Avoid transport on vehicles where the load space is not separated from the driver's compartment, Ensure vehicle driver is aware of the potential hazards of the load and knows what to do in the event of an accident or an emergency, Before transporting product containers: - Ensure there is adequate ventilation, - Ensure that containers are firmly secured, - Ensure valve is closed and not leaking, - Ensure valve outlet cap nut or plug (where provided) is correctly fitted, - Ensure valve protection device (where provided) is correctly fitted.

Overland transport

Classification code (ADR)	:	2F
Special provisions (ADR)	:	386, 662
Limited quantities (ADR)	:	0
Excepted quantities (ADR)	:	E0
Packing instructions (ADR)	:	P200
Mixed packing provisions (ADR)	:	MP9
Portable tank and bulk container instructions (ADR)	:	(M), T50
Tank code (ADR)	:	PxBN(M)
Tank special provisions (ADR)	:	TA4, TT9
Vehicle for tank carriage	:	FL
Transport category (ADR)	:	2
Special provisions for carriage - Packages (ADR)	:	V8
Special provisions for carriage - Loading, unloading and handling (ADR)	:	CV9, CV10, CV36
Special provisions for carriage - Operation (ADR)	:	S2, S4, S20
Hazard identification number (Kemler No.)	:	239
Orange plates	:	
Tunnel restriction code (ADR)	:	B/D

Transport by sea

Special provisions (IMDG)	:	386
Limited quantities (IMDG)	:	0
Excepted quantities (IMDG)	:	E0
Packing instructions (IMDG)	:	P200
Tank instructions (IMDG)	:	T50
EmS-No. (Fire)	:	F-D
EmS-No. (Spillage)	:	S-U
Stowage category (IMDG)	:	B
Stowage and handling (IMDG)	:	SW1, SW2
Properties and observations (IMDG)	:	Liquefied, flammable gas. Much heavier than air (3.7). Boiling point: 16°C.

Air transport

PCA Excepted quantities (IATA)	:	E0
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)	:	200
CAO max net quantity (IATA)	:	150kg
Special provisions (IATA)	:	A1

ERG code (IATA) : 10L

Inland waterway transport

Classification code (ADN) : 2F
Special provisions (ADN) : 386, 662
Limited quantities (ADN) : 0
Excepted quantities (ADN) : E0
Equipment required (ADN) : PP, EX, A
Ventilation (ADN) : VE01
Number of blue cones/lights (ADN) : 1

Rail transport

Classification code (RID) : 2F
Special provisions (RID) : 386, 662
Limited quantities (RID) : 0
Excepted quantities (RID) : E0
Packing instructions (RID) : P200
Mixed packing provisions (RID) : MP9
Portable tank and bulk container instructions (RID) : T50(M)
Tank codes for RID tanks (RID) : PxBN(M)
Special provisions for RID tanks (RID) : TU38, TE22, TA4, TT9, TM6
Transport category (RID) : 2
Special provisions for carriage - Loading, unloading and handling (RID) : CW9, CW10, CW36
Colis express (express parcels) (RID) : CE3
Hazard identification number (RID) : 239

14.7. Maritime transport in bulk according to IMO instruments

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

REACH Annex XVII (Restriction List)

EU restriction list (REACH Annex XVII)		
Reference code	**Applicable on**	**Entry title or description**
28.	bromoethylene	Substances which are classified as carcinogen category 1A or 1B in Part 3 of Annex VI to Regulation (EC) No 1272/2008 and are listed in Appendix 1 or Appendix 2, respectively.
40.	bromoethylene	Substances classified as flammable gases category 1 or 2, flammable liquids categories 1, 2 or 3, flammable solids category 1 or 2, substances and mixtures which, in contact with water, emit flammable gases, category 1, 2 or 3, pyrophoric liquids category 1 or pyrophoric solids category 1, regardless of whether they appear in Part 3 of Annex VI to Regulation (EC) No 1272/2008 or not.

REACH Annex XIV (Authorisation List)

Not listed on REACH Annex XIV (Authorisation List)

REACH Candidate List (SVHC)

Not listed on the REACH Candidate List

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PIC Regulation (Prior Informed Consent)

Not listed on the PIC list (Regulation EU 649/2012)

POP Regulation (Persistent Organic Pollutants)

Not listed on the POP list (Regulation EU 2019/1021)

Ozone Regulation (1005/2009)

Not listed on the Ozone Depletion list (Regulation EU 1005/2009)

VOC Directive (2004/42)

Restrictions on use : Restricted to professional users (Annex XVII REACH).

Seveso Directive (Disaster Risk Reduction)

Seveso Directive : 2012/18/EU (Seveso III) : Covered.

Seveso III Part II (Named dangerous substances)	Qualifying quantity (tonnes)	
	Lower-tier	Upper-tier
Liquefied flammable gases, Category 1 or 2 (including LPG) and natural gas	50	200

Explosives Precursors Regulation (2019/1148)

Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

Drug Precursors Regulation (273/2004)

Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

15.1.2. National regulations

Ensure all national/local regulations are observed.
Safety data sheet in accordance with commission regulation (EU) No 2020/878.
Council Directive 89/391/EEC on the introduction of measures to encourage improvements in the safety and health of workers at work
Directive 2016/425/EEC on personal protective equipment
Directive 2014/34/EU on equipment and protective systems intended for use in potentially explosive atmospheres (ATEX)
Only products that comply with the food regulations (EC) No. 1333/2008 and (EU) No. 231/2012 and are labelled as such may be used as food additives.
This Safety Data Sheet has been produced to comply with Regulation (EU) 2015/830.

15.2. Chemical safety assessment

A CSA has not yet been carried out.

SECTION 16: Other information

Indication of changes:
Safety data sheet in accordance with commission regulation (EU) No 2020/878.

Abbreviations and acronyms:	
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
	ADR - Agreement concerning the International Carriage of Dangerous Goods by Road
	ATE - Acute Toxicity Estimate
BLV	Biological limit value
BOD	Biochemical oxygen demand (BOD)

Vinylbromide

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

Abbreviations and acronyms:	
CAO	Cargo Aircraft only / Cargo Aircraft only
CAS-No.	Chemical Abstract Service number
	CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
COD	Chemical oxygen demand (COD)
	CSA - Chemical Safety Assessment
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC50	Median effective concentration
EC	European Inventory of Existing Commercial Chemical Substances
ED	Endocrine disrupting properties
	EINECS - European Inventory of Existing Commercial Chemical Substances
EN	European Standard
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
IOELV	Indicative Occupational Exposure Limit Value
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
N.O.S.	Not Otherwise Specified
OECD	Organisation for Economic Co-operation and Development
OEL	Occupational Exposure Limit
PBT	Persistent Bioaccumulative Toxic
PCA	Passenger and Cargo Aircraft / Passenger and Cargo Aircraft
PNEC	Predicted No-Effect Concentration
	PPE - Personal Protection Equipment
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
	RMM - Risk Management Measures
STP	Sewage treatment plant
ThOD	Theoretical oxygen demand (ThOD)

Vinylbromide

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

Abbreviations and acronyms:	
TLM	Median Tolerance Limit
TRGS	Technical Rules for Hazardous Substances
STOT-RE	Specific Target Organ Toxicity-Repeated Exposure
STOT-SE	Specific Target Organ Toxicity-Single Exposure
UFI	Unique Formula Identifier
	UN - United Nations
VOC	Volatile Organic Compounds
vPvB	Very Persistent and Very Bioaccumulative
WGK	Water Hazard Class

Training advice : Ensure operators understand the flammability hazard.

Other information : Classification in accordance with the procedures and calculation methods of Regulation (EC) 1272/2008 (CLP). Key literature references and sources of data are maintained in EIGA doc 169 : 'Classification and Labelling Guide', downloadable at http://www.Eiga.eu .

Full text of H- and EUH-statements:	
Carc. 1B	Carcinogenicity, Category 1B
Flam. Gas 1A - Chem. Unst. Gas B	Flammable gases, Category 1A, Chemically unstable gas B
H220	Extremely flammable gas.
H231	May react explosively even in the absence of air at elevated pressure and/or temperature.
H280	Contains gas under pressure; may explode if heated.
H350	May cause cancer.
Press. Gas (Liq.)	Gases under pressure : Liquefied gas

The classification complies with : ATP 12

DISCLAIMER OF LIABILITY : Before using this product in any new process or experiment, a thorough material compatibility and safety study should be carried out.
Details given in this document are believed to be correct at the time of going to press.
Whilst proper care has been taken in the preparation of this document, no liability for injury or damage resulting from its use can be accepted.

Safety Data Sheet (SDS), EU AT

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.

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