

ethene, liquefied, under pressure**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifier:**

| | |
|----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product name | : ethene, liquefied, under pressure |
| Synonyms | : acetene, liquefied, under pressure; bicarburetted hydrogen, liquefied, under pressure; bicarburetted hydrogen, liquefied, under pressure; carburetted hydrogen, heavy, liquefied, under pressure; dicarburetted hydrogen, liquefied, under pressure; elayl, liquefied, under pressure; ethene; etherin, liquefied, under pressure; ethylene; ethylene, liquefied, under pressure; ethylene, pure; heavy carburetted hydrogen, liquefied, under pressure; olefiant gas, liquefied, under pressure; R1150, liquefied, under pressure |
| Registration number REACH | : 01-2119462827-27 |
| Product type REACH | : Substance/mono-constituent |
| CAS number | : 74-85-1 |
| EC index number | : 601-010-00-3 |
| EC number | : 200-815-3 |
| RTECS number | : KU5340000 |
| Molecular mass | : 28.05 g/mol |
| Formula | : C ₂ H ₄ |

1.2 Relevant identified uses of the substance or mixture and uses advised against:**1.2.1 Relevant identified uses**

Synthetic material: production
Growth regulator

1.2.2 Uses advised against

See heading 15.1: Reach Annex XVII - Restriction

1.3 Details of the supplier of the safety data sheet:**Supplier of the safety data sheet**

BALCHEM NV
Westvaardijk 85
B-1850 Grimbergen Belgium
☎ +32 2 251 60 87
✉ +32 2 252 17 51
info.grimbergen@balchem.com

Distributor of the product

BALCHEM NV
Westvaardijk 85
B-1850 Grimbergen Belgium
☎ +32 2 251 60 87
✉ +32 2 252 17 51
info.grimbergen@balchem.com

1.4 Emergency telephone number:

24h/24h (Telephone advice: English, French, German, Dutch):
+32 14 58 45 45 (BIG)

SECTION 2: Hazards identification**2.1 Classification of the substance or mixture:****2.1.1 Classification according to Regulation EC No 1272/2008**

Classified as dangerous according to the criteria of Regulation (EC) No 1272/2008

| Class | Category | Hazard statements |
|------------|---------------|-----------------------------------------------------------|
| Flam. Gas | category 1 | H220: Extremely flammable gas. |
| Press. Gas | Liquefied gas | H280: Contains gas under pressure; may explode if heated. |
| STOT SE | category 3 | H336: May cause drowsiness or dizziness. |

2.1.2 Classification according to Directive 67/548/EEC-1999/45/EC

Classified as dangerous in accordance with the criteria of Directives 67/548/EEC and 1999/45/EC

F+; R12 - Extremely flammable.
R67 - Vapours may cause drowsiness and dizziness.

2.2 Label elements:

ethene, liquefied, under pressure

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



Signal word

Danger

H-statements

H220 Extremely flammable gas.
H280 Contains gas under pressure; may explode if heated.
H336 May cause drowsiness or dizziness.

P-statements

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260 Do not breathe gas.
P271 Use only outdoors or in a well-ventilated area.
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P381 Eliminate all ignition sources if safe to do so.
P377 Leaking gas fire: Do not extinguish, unless leak can be stopped safely.

2.3 Other hazards:

CLP

May build up electrostatic charges: risk of ignition
May be ignited by sparks
Gas/vapour spreads at floor level: ignition hazard
Heat may cause pressure rise in tanks/drums: explosion risk
May cause frostbites
Slightly irritant to respiratory organs
Harmful to fishes
Harmful to invertebrates (Daphnia)
Harmful to algae

SECTION 3: Composition/information on ingredients

3.1 Substances:

| Name REACH Registration No | CAS No EC No | Conc. (C) | Classification according to DSD/DPD | Classification according to CLP | Note | Remark |
|-------------------------------|----------------------|-----------|----------------------------------------|-----------------------------------------------------------------------------|------------|------------------|
| ethylene 01-2119462827-27 | 74-85-1 200-815-3 | C>99 % | F+; R12 R67 | Flam. Gas 1; H220 Press. Gas - Liquefied gas; H280 STOT SE 3; H336 | (1)(2)(10) | Mono-constituent |

(1) For R-phrases and H-statements in full: see heading 16
(2) Substance with a Community workplace exposure limit
(10) Subject to restrictions of Annex XVII of Regulation (EC) No. 1907/2006

3.2 Mixtures:

Not applicable

SECTION 4: First aid measures

4.1 Description of first aid measures:

General:

Check the vital functions. Unconscious: maintain adequate airway and respiration. Respiratory arrest: artificial respiration or oxygen. Cardiac arrest: perform resuscitation. Victim conscious with laboured breathing: half-seated. Victim in shock: on his back with legs slightly raised. Vomiting: prevent asphyxia/aspiration pneumonia. Prevent cooling by covering the victim (no warming up). Keep watching the victim. Give psychological aid. Keep the victim calm, avoid physical strain. Depending on the victim's condition: doctor/hospital.

After inhalation:

Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service.

After skin contact:

Rinse with water. Take victim to a doctor if irritation persists. In case of frostbites: Wash immediately with lots of water (15 minutes)/shower. Do not apply (chemical) neutralizing agents. Remove clothing while washing. Do not remove clothing if it sticks to the skin. Cover wounds with sterile bandage. Consult a doctor/medical service. If burned surface > 10%: take victim to hospital.

Reason for revision: ATP4

Publication date: 2011-10-31

Date of revision: 2014-10-24

Reference number: 1300

Revision number: 0100

Product number: 10334

2 / 11

ethene, liquefied, under pressure

After eye contact:

Rinse immediately with plenty of water for 15 minutes. Do not apply neutralizing agents. Take victim to an ophthalmologist.

After ingestion:

Not applicable.

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

4.2.1 Acute symptoms

After inhalation:

Slight irritation. EXPOSURE TO HIGH CONCENTRATIONS: Headache. Nausea. Dizziness. Narcosis. Feeling of weakness. Rapid respiration. Accelerated heart action. Coordination disorders. Disturbances of consciousness. Respiratory difficulties. Cramps/uncontrolled muscular contractions.

After skin contact:

Frostbites.

After eye contact:

Frostbites.

After ingestion:

Not applicable.

4.2.2 Delayed symptoms

No effects known.

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

If applicable and available it will be listed below.

SECTION 5: Firefighting measures

5.1 Extinguishing media:

5.1.1 Suitable extinguishing media:

Water spray. Polyvalent foam. BC powder. Carbon dioxide. Dry sand.

5.1.2 Unsuitable extinguishing media:

Solid water jet ineffective as extinguishing medium.

5.2 Special hazards arising from the substance or mixture:

Upon combustion: CO and CO₂ are formed. Polymerizes on exposure to temperature rise and upon a rise of pressure.

5.3 Advice for firefighters:

5.3.1 Instructions:

If no hazard for/from the surroundings: controlled burning. If hazardous substances are nearby: consider extinguishment. Extinguish only if gas supply/leak can be shut afterwards. Cool tanks/drums with water spray/remove them into safety. Physical explosion risk: extinguish/cool from behind cover. Do not move the load if exposed to heat. After cooling: persistent risk of physical explosion.

5.3.2 Special protective equipment for fire-fighters:

Insulating gloves. Protective clothing. Compressed air/oxygen apparatus.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures:

Keep upwind. Close doors and windows of adjacent premises. Stop engines and no smoking. No naked flames or sparks. Spark- and explosionproof appliances and lighting equipment. Avoid ingress of water in the containers.

6.1.1 Protective equipment for non-emergency personnel

See heading 8.2

6.1.2 Protective equipment for emergency responders

Insulating gloves. Protective clothing.

Suitable protective clothing

See heading 8.2

6.2 Environmental precautions:

Contain released substance, pump into suitable containers. Plug the leak, cut off the supply. Dam up the liquid spill. Tip the container on one side to stop the leakage. Try to reduce evaporation. Prevent spreading in sewers.

6.3 Methods and material for containment and cleaning up:

Take up liquid spill into a non combustible material e.g.: sand, earth, vermiculite. Scoop absorbed substance into closing containers. Carefully collect the spill/leftovers. Damaged/cooled tanks must be emptied. Do not use compressed air for pumping over spills. Clean contaminated surfaces with an excess of water. Take collected spill to manufacturer/competent authority. Wash clothing and equipment after handling.

6.4 Reference to other sections:

See heading 13.

SECTION 7: Handling and storage

The information in this section is a general description. If applicable and available, exposure scenarios are attached in annex. Always use the relevant exposure scenarios that correspond to your identified use.

7.1 Precautions for safe handling:

Reason for revision: ATP4

Publication date: 2011-10-31

Date of revision: 2014-10-24

Reference number: 1300

Revision number: 0100

Product number: 10334

3 / 11

ethene, liquefied, under pressure

Use spark-/explosionproof appliances and lighting system. Take precautions against electrostatic charges. Keep away from naked flames/heat. Keep away from ignition sources/sparks. Observe normal hygiene standards.

7.2 Conditions for safe storage, including any incompatibilities:

7.2.1 Safe storage requirements:

Storage temperature: < 52 °C. Store in a cool area. Keep out of direct sunlight. Keep container in a well-ventilated place. Fireproof storeroom. Provide for an automatic sprinkler system. Provide for a tub to collect spills. Provide the tank with earthing. Under a shelter/in the open. Detached building. Meet the legal requirements.

7.2.2 Keep away from:

Heat sources, ignition sources, combustible materials, oxidizing agents, (strong) acids, halogens, gases.

7.2.3 Suitable packaging material:

Steel, stainless steel, monel steel, aluminium, copper, polyethylene.

7.2.4 Non suitable packaging material:

No data available

7.3 Specific end use(s):

If applicable and available, exposure scenarios are attached in annex. See information supplied by the manufacturer.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters:

8.1.1 Occupational exposure

a) Occupational exposure limit values

If limit values are applicable and available these will be listed below.

The Netherlands

| | | | |
|----------|--------------------------------------------------------------------------------------|------------------------|--|
| Ethyleen | Time-weighted average exposure limit 8 h (Private occupational exposure limit value) | 283 ppm | |
| | Time-weighted average exposure limit 8 h (Private occupational exposure limit value) | 330 mg/m ³ | |
| | Short time value (Private occupational exposure limit value) | 1029 ppm | |
| | Short time value (Private occupational exposure limit value) | 1200 mg/m ³ | |

Belgium

| | | | |
|----------|------------------------------------------|---------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ethylène | Time-weighted average exposure limit 8 h | 200 ppm (A) | La mention "A" signifie que l'agent libère un gaz ou une vapeur qui n'ont en eux-mêmes aucun effet physiologique mais peuvent diminuer le taux d'oxygène dans l'air. Lorsque le taux d'oxygène descend en dessous de 17-18 % (vol/vol) le manque d'oxygène provoque des suffocations qu'aucun symptôme préalable n'annonce |
| | Time-weighted average exposure limit 8 h | 233 mg/m ³ (A) | La mention "A" signifie que l'agent libère un gaz ou une vapeur qui n'ont en eux-mêmes aucun effet physiologique mais peuvent diminuer le taux d'oxygène dans l'air. Lorsque le taux d'oxygène descend en dessous de 17-18 % (vol/vol) le manque d'oxygène provoque des suffocations qu'aucun symptôme préalable n'annonce |

USA (TLV-ACGIH)

| | | | |
|----------|----------------------------------------------------------------|---------|--|
| Ethylene | Time-weighted average exposure limit 8 h (TLV - Adopted Value) | 200 ppm | |
|----------|----------------------------------------------------------------|---------|--|

b) National biological limit values

If limit values are applicable and available these will be listed below.

8.1.2 Sampling methods

If applicable and available it will be listed below.

8.1.3 Applicable limit values when using the substance or mixture as intended

If limit values are applicable and available these will be listed below.

8.1.4 DNEL/PNEC values

If applicable and available it will be listed below.

8.1.5 Control banding

If applicable and available it will be listed below.

8.2 Exposure controls:

Reason for revision: ATP4

Publication date: 2011-10-31

Date of revision: 2014-10-24

Reference number: 1300

Product number: 10334

Revision number: 0100

4 / 11

ethene, liquefied, under pressure

The information in this section is a general description. If applicable and available, exposure scenarios are attached in annex. Always use the relevant exposure scenarios that correspond to your identified use.

8.2.1 Appropriate engineering controls

Use spark-/explosionproof appliances and lighting system. Take precautions against electrostatic charges. Keep away from naked flames/heat. Keep away from ignition sources/sparks. Measure the concentration in the air regularly. Work under local exhaust/ventilation.

8.2.2 Individual protection measures, such as personal protective equipment

Observe normal hygiene standards. Do not eat, drink or smoke during work.

a) Respiratory protection:

Wear gas mask with filter type A if conc. in air > exposure limit. High vapour/gas concentration: self-contained respirator.

b) Hand protection:

Insulated gloves.

- materials (good resistance)

Butyl rubber, chlorinated polyethylene, neoprene, polyethylene, viton.

c) Eye protection:

Protective goggles.

d) Skin protection:

Protective clothing.

8.2.3 Environmental exposure controls:

See headings 6.2, 6.3 and 13

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties:

| | |
|---------------------------|--------------------------------------------------------|
| Physical form | Liquefied gas |
| Odour | Sweet odour |
| | Almost odourless |
| Odour threshold | > 239 ppm |
| Colour | Colourless |
| Particle size | Not applicable (gas) |
| Explosion limits | 2.7 - 36 vol % 31 - 390 g/m ³ |
| Flammability | Extremely flammable gas. |
| Log Kow | 0.053/1.13 ; Test data |
| Dynamic viscosity | 0.01 mPa.s ; 27 °C |
| Kinematic viscosity | No data available |
| Melting point | -169 °C |
| Boiling point | -104 °C |
| Flash point | Not applicable (gas) |
| Evaporation rate | No data available |
| Relative vapour density | 0.98 |
| Vapour pressure | 41000 hPa ; 0 °C 2124 hPa ; -90 °C |
| Solubility | water ; 0.13 g/100 ml ; 25 °C ether ; soluble |
| Relative density | 0.60 ; -104 °C |
| Decomposition temperature | 315 °C |
| Auto-ignition temperature | 450 °C |
| Explosive properties | No chemical group associated with explosive properties |
| Oxidising properties | No chemical group associated with oxidising properties |
| pH | No data available |

9.2 Other information:

| | |
|-------------------------|---------------------------------|
| Minimum ignition energy | 0.070 mJ |
| Specific conductivity | < 10000 pS/m |
| Critical temperature | 10 °C |
| Critical pressure | 51200 hPa |
| Surface tension | 0.016 N/m ; -104 °C |
| Absolute density | 600 kg/m ³ ; -104 °C |

SECTION 10: Stability and reactivity

10.1 Reactivity:

May build up electrostatic charges: risk of ignition. May be ignited by sparks. Gas/vapour spreads at floor level: ignition hazard. Substance has neutral reaction.

10.2 Chemical stability:

Stable under normal conditions.

10.3 Possibility of hazardous reactions:

Reason for revision: ATP4

Publication date: 2011-10-31

Date of revision: 2014-10-24

Reference number: 1300

Revision number: 0100

Product number: 10334

5 / 11

ethene, liquefied, under pressure

May polymerize on exposure to some compounds: (increased) risk of fire/explosion. Reacts violently with many compounds e.g.: with (strong) oxidizers, with (some) halogens compounds and with (some) acids: (increased) risk of fire/explosion.

10.4 Conditions to avoid:

Use spark-/explosionproof appliances and lighting system. Take precautions against electrostatic charges. Keep away from naked flames/heat. Keep away from ignition sources/sparks.

10.5 Incompatible materials:

Combustible materials, oxidizing agents, (strong) acids, halogens, gases.

10.6 Hazardous decomposition products:

Upon combustion: CO and CO₂ are formed.

SECTION 11: Toxicological information

11.1 Information on toxicological effects:

11.1.1 Test results

Acute toxicity

ethene, liquefied, under pressure

| Route of exposure | Parameter | Method | Value | Exposure time | Species | Value determination | Remark |
|--------------------|-----------|--------|------------|---------------|------------|---------------------|--------|
| Oral | | | | | | Data waiving | |
| Dermal | | | | | | Data waiving | |
| Inhalation (gases) | LC50 | | >57000 ppm | 4 h | Rat (male) | Experimental value | |
| Inhalation (gases) | LC50 | | >65.4 mg/l | 4 h | Rat (male) | Experimental value | |

As the substance is a gas, inhalation is the most appropriate route of exposure

Conclusion

Low acute toxicity by the inhalation route

Corrosion/irritation

ethene, liquefied, under pressure

| Route of exposure | Result | Method | Exposure time | Time point | Species | Value determination | Remark |
|-------------------|--------|--------|---------------|------------|---------|---------------------|--------|
| Eye | | | | | | Data waiving | |
| Skin | | | | | | Data waiving | |

The liquid form can cause frostbites, typical for all liquified gases

Conclusion

Not classified as irritating to the skin

Not classified as irritating to the eyes

Respiratory or skin sensitisation

ethene, liquefied, under pressure

| Route of exposure | Result | Method | Exposure time | Observation time point | Species | Value determination | Remark |
|-------------------|--------|--------|---------------|------------------------|---------|---------------------|--------|
| Skin | | | | | | Data waiving | |
| Inhalation | | | | | | Data waiving | |

The study on skin sensitisation does not need to be conducted as the substance is a gas

Conclusion

Not classified as sensitizing for skin

Not classified as sensitizing for inhalation

Specific target organ toxicity

ethene, liquefied, under pressure

| Route of exposure | Parameter | Method | Value | Organ | Effect | Exposure time | Species | Value determination |
|--------------------|------------------------|-------------------|-----------|------------------------|--------------------------------------|--------------------------------|-------------------|---------------------|
| Oral | | | | | | | | Data waiving |
| Dermal | | | | | | | | Data waiving |
| Inhalation (gases) | NOAEC systemic effects | OECD 413 | 10000 ppm | | No adverse systemic effects | 13 weeks (6h/day, 5 days/week) | Rat (male/female) | Experimental value |
| Inhalation (gases) | LOAEC | OECD 413 | 300 ppm | Nose | Erosion/degeneration nasal epithelia | 13 weeks (6h/day, 5 days/week) | Rat (male/female) | Experimental value |
| Inhalation (gases) | | Human observation | | Central nervous system | Narcosis | | Human | Experimental value |

As the substance is a gas, inhalation is the most appropriate route of exposure

Conclusion

May cause drowsiness or dizziness.

Reason for revision: ATP4

Publication date: 2011-10-31

Date of revision: 2014-10-24

Reference number: 1300

Revision number: 0100

Product number: 10334

6 / 11

ethene, liquefied, under pressure

Not classified for subchronic toxicity

Mutagenicity (in vitro)

ethene, liquefied, under pressure

| Result | Method | Test substrate | Effect | Value determination |
|---------------------------------------------------------------------------|------------------------|-----------------------------------|-----------|---------------------|
| Negative with metabolic activation, negative without metabolic activation | Equivalent to OECD 471 | Bacteria (<i>S.typhimurium</i>) | No effect | Experimental value |
| Negative with metabolic activation, negative without metabolic activation | OECD 473 | Chinese hamster ovary (CHO) | No effect | Experimental value |

Mutagenicity (in vivo)

ethene, liquefied, under pressure

| Result | Method | Exposure time | Test substrate | Organ | Value determination |
|----------|------------------|--------------------------------|-------------------|-------------|---------------------|
| Negative | OECD 474 | 4 weeks (6h/day, 5 days/week) | Rat (male) | Bone marrow | Experimental value |
| Negative | EPA OTS 798.5395 | 13 weeks (6h/day, 5 days/week) | Rat (male/female) | Bone marrow | Experimental value |

Carcinogenicity

ethene, liquefied, under pressure

| Route of exposure | Parameter | Method | Value | Exposure time | Species | Value determination | Organ | Effect |
|--------------------|-----------|------------------------|----------|---------------------------------|-------------------|---------------------|-------|------------------------|
| Inhalation (gases) | NOAEC | Equivalent to OECD 453 | 3000 ppm | 106 weeks (6h/day, 5 days/week) | Rat (male/female) | Experimental value | | No carcinogenic effect |

Reproductive toxicity

ethene, liquefied, under pressure

| | Parameter | Method | Value | Exposure time | Species | Effect | Organ | Value determination |
|------------------------|-----------|----------|----------|-------------------------------|-------------------|-----------|-------|---------------------|
| Developmental toxicity | NOAEC | OECD 421 | 5000 ppm | 4 weeks (6h/day, 7 days/week) | Rat (male/female) | No effect | | Experimental value |
| Maternal toxicity | NOAEC | OECD 421 | 5000 ppm | 4 weeks (6h/day, 7 days/week) | Rat | No effect | | Experimental value |
| Effects on fertility | NOAEC | OECD 421 | 5000 ppm | 4 weeks (6h/day, 7 days/week) | Rat (male/female) | No effect | | Experimental value |

Conclusion CMR

Not classified for carcinogenicity

Not classified for mutagenic or genotoxic toxicity

Not classified for reprotoxic or developmental toxicity

Toxicity other effects

ethene, liquefied, under pressure

No (test) data available

Chronic effects from short and long-term exposure

ethene, liquefied, under pressure

No effects known.

SECTION 12: Ecological information

12.1 Toxicity:

ethene, liquefied, under pressure

| | Parameter | Method | Value | Duration | Species | Test design | Fresh/salt water | Value determination |
|-----------------------------------------|-----------|--------|------------|-----------|-------------|-------------|------------------|---------------------|
| Acute toxicity fishes | LC50 | ECOSAR | 96-141 ppm | 96 h | Pisces | | | QSAR |
| Acute toxicity invertebrates | LC50 | ECOSAR | 48 mg/l | 48 h | Daphnia sp. | | | QSAR |
| Toxicity algae and other aquatic plants | EC50 | | 69.7 mg/l | 72 h | Algae | | | QSAR |
| Long-term toxicity fish | LC50 | ECOSAR | 96 mg/l | 14 day(s) | Pisces | | | QSAR |

Conclusion

Reason for revision: ATP4

Publication date: 2011-10-31

Date of revision: 2014-10-24

Reference number: 1300

Revision number: 0100

Product number: 10334

7 / 11

ethene, liquefied, under pressure

Harmful to fishes
Harmful to invertebrates (Daphnia)
Harmful to algae
Toxic to flora
Not classified as dangerous for the environment according to the criteria of Regulation (EC) No 1272/2008

12.2 Persistence and degradability:

ethene, liquefied, under pressure

Phototransformation air (DT50 air)

| Method | Value | Conc. OH-radicals | Value determination |
|--------|------------|-------------------------|---------------------|
| | 1.9 day(s) | 500000 /cm ³ | Literature |

Half-life soil (t1/2 soil)

| Method | Value | Primary degradation/mineralisation | Value determination |
|--------|-------|------------------------------------|----------------------|
| | | | Not applicable (gas) |

Conclusion

Readily biodegradable in water
Inherently biodegradable

12.3 Bioaccumulative potential:

ethene, liquefied, under pressure

BCF fishes

| Parameter | Method | Value | Duration | Species | Value determination |
|-----------|--------|-------|--------------|---------------------|---------------------|
| BCF | | 4 | 2-304 day(s) | Pimephales promelas | QSAR |

Log Kow

| Method | Remark | Value | Temperature | Value determination |
|--------|--------|------------|-------------|---------------------|
| | | 0.053/1.13 | | Test data |

Conclusion

Low potential for bioaccumulation (BCF < 500)

12.4 Mobility in soil:

ethene, liquefied, under pressure

(log) Koc

| Parameter | Method | Value | Value determination |
|-----------|--------|-------|---------------------|
| log Koc | | 2-66 | Calculated value |

Volatility (Henry's Law constant H)

| Value | Method | Temperature | Remark | Value determination |
|-------|--------|-------------|--------|---------------------|
| | | 25 °C | | Experimental value |

Conclusion

No straightforward conclusion can be drawn based upon the available numerical values

12.5 Results of PBT and vPvB assessment:

Substance does not meet the screening criteria for persistency nor bioaccumulation so is neither PBT nor vPvB.

12.6 Other adverse effects:

ethene, liquefied, under pressure

Global warming potential (GWP)

Not included in the list of fluorinated greenhouse gases (Regulation (EC) No 842/2006)

Ozone-depleting potential (ODP)

Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009)

SECTION 13: Disposal considerations

The information in this section is a general description. If applicable and available, exposure scenarios are attached in annex. Always use the relevant exposure scenarios that correspond to your identified use.

13.1 Waste treatment methods:

13.1.1 Provisions relating to waste

Waste material code (Directive 2008/98/EC, Decision 2000/0532/EC).

16 05 04* (gases in pressure containers and discarded chemicals: gases in pressure containers (including halons) containing dangerous substances).

Depending on branch of industry and production process, also other waste codes may be applicable. Hazardous waste according to Directive 2008/98/EC.

13.1.2 Disposal methods

Refer to manufacturer/supplier for information on recovery/ recycling. Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals. Do not discharge into drains or the environment.

Reason for revision: ATP4

Publication date: 2011-10-31

Date of revision: 2014-10-24

Reference number: 1300

Product number: 10334

Revision number: 0100

8 / 11

ethene, liquefied, under pressure

13.1.3 Packaging/Container

Waste material code packaging (Directive 2008/98/EC).

15 01 10* (packaging containing residues of or contaminated by dangerous substances).

SECTION 14: Transport information

Road (ADR)

14.1 UN number:

| | |
|-----------|------|
| UN number | 1962 |
|-----------|------|

14.2 UN proper shipping name:

| | |
|----------------------|----------|
| Proper shipping name | Ethylene |
|----------------------|----------|

14.3 Transport hazard class(es):

| | |
|------------------------------|----|
| Hazard identification number | 23 |
| Class | 2 |
| Classification code | 2F |

14.4 Packing group:

| | |
|---------------|-----|
| Packing group | |
| Labels | 2.1 |

14.5 Environmental hazards:

| | |
|------------------------------------------|----|
| Environmentally hazardous substance mark | no |
|------------------------------------------|----|

14.6 Special precautions for user:

| | |
|--------------------|-------|
| Special provisions | |
| Limited quantities | none. |

Rail (RID)

14.1 UN number:

| | |
|-----------|------|
| UN number | 1962 |
|-----------|------|

14.2 UN proper shipping name:

| | |
|----------------------|----------|
| Proper shipping name | Ethylene |
|----------------------|----------|

14.3 Transport hazard class(es):

| | |
|------------------------------|----|
| Hazard identification number | 23 |
| Class | 2 |
| Classification code | 2F |

14.4 Packing group:

| | |
|---------------|-----------|
| Packing group | |
| Labels | 2.1 (+13) |

14.5 Environmental hazards:

| | |
|------------------------------------------|----|
| Environmentally hazardous substance mark | no |
|------------------------------------------|----|

14.6 Special precautions for user:

| | |
|--------------------|-------|
| Special provisions | |
| Limited quantities | none. |

Inland waterways (ADN)

14.1 UN number:

| | |
|-----------|------|
| UN number | 1962 |
|-----------|------|

14.2 UN proper shipping name:

| | |
|----------------------|----------|
| Proper shipping name | Ethylene |
|----------------------|----------|

14.3 Transport hazard class(es):

| | |
|---------------------|----|
| Class | 2 |
| Classification code | 2F |

14.4 Packing group:

| | |
|---------------|-----|
| Packing group | |
| Labels | 2.1 |

14.5 Environmental hazards:

| | |
|------------------------------------------|----|
| Environmentally hazardous substance mark | no |
|------------------------------------------|----|

14.6 Special precautions for user:

| | |
|--------------------|-------|
| Special provisions | |
| Limited quantities | none. |

Sea (IMDG/IMSBC)

14.1 UN number:

| | |
|-----------|------|
| UN number | 1962 |
|-----------|------|

14.2 UN proper shipping name:

| | |
|----------------------|----------|
| Proper shipping name | Ethylene |
|----------------------|----------|

14.3 Transport hazard class(es):

| | |
|-------|-----|
| Class | 2.1 |
|-------|-----|

14.4 Packing group:

| | |
|---------------|-----|
| Packing group | |
| Labels | 2.1 |

ethene, liquefied, under pressure

14.5 Environmental hazards:

| | |
|------------------------------------------|----|
| Marine pollutant | - |
| Environmentally hazardous substance mark | no |

14.6 Special precautions for user:

| | |
|--------------------|-------|
| Special provisions | |
| Limited quantities | none. |

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:

| | |
|--------------------------|----------------|
| Annex II of MARPOL 73/78 | Not applicable |
|--------------------------|----------------|

Air (ICAO-TI/IATA-DGR)

14.1 UN number:

| | |
|-----------|------|
| UN number | 1962 |
|-----------|------|

14.2 UN proper shipping name:

| | |
|----------------------|----------|
| Proper shipping name | Ethylene |
|----------------------|----------|

14.3 Transport hazard class(es):

| | |
|-------|-----|
| Class | 2.1 |
|-------|-----|

14.4 Packing group:

| | |
|---------------|-----|
| Packing group | |
| Labels | 2.1 |

14.5 Environmental hazards:

| | |
|------------------------------------------|----|
| Environmentally hazardous substance mark | no |
|------------------------------------------|----|

14.6 Special precautions for user:

| | |
|---------------------------------------------------------------------------------------|----|
| Special provisions | A1 |
| Passenger and cargo transport: limited quantities: maximum net quantity per packaging | |

SECTION 15: Regulatory information

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

European legislation:

VOC content Directive 2010/75/EU

| VOC content | Remark |
|-------------|--------|
| 100 % | |

Plant protection products

Included in implementing Regulation (EU) No 540/2011, annex part A

European drinking water standards (Directive 98/83/EC)

ethene, liquefied, under pressure

| Parameter | Parametric value | Note | Reference |
|--------------------|------------------|------|----------------------------------------------------------------------------------------------------------|
| Pesticides | 0,1 µg/l | | Listed in Annex I, Part B, of Directive 98/83/EC on the quality of water intended for human consumption. |
| Pesticides — Total | 0,5 µg/l | | Listed in Annex I, Part B, of Directive 98/83/EC on the quality of water intended for human consumption. |

REACH Annex XVII - Restriction

Subject to restrictions of Annex XVII of Regulation (EC) No. 1907/2006: restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles.

| | Designation of the substance, of the group of substances or of the mixture | Conditions of restriction |
|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ethylene | 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 that Regulation or not. | 1. Shall not be used, as substance or as mixtures in aerosol dispensers where these aerosol dispensers are intended for supply to the general public for entertainment and decorative purposes such as the following: — metallic glitter intended mainly for decoration, — artificial snow and frost, — “whoopee” cushions, — silly string aerosols, — imitation excrement, — horns for parties, — decorative flakes and foams, — artificial cobwebs, — stink bombs.2. Without prejudice to the application of other Community provisions on the classification, packaging and labelling of substances, suppliers shall ensure before the placing on the market that the packaging of aerosol dispensers referred to above is marked visibly, legibly and indelibly with: “For professional users only”.3. By way of derogation, paragraphs 1 and 2 shall not apply to the aerosol dispensers referred to Article 8 (1a) of Council Directive 75/ 324/EEC.4. The aerosol dispensers referred to in paragraphs 1 and 2 shall not be placed on the market unless they conform to the requirements indicated. |

National legislation The Netherlands

| | |
|----------------------------------------|-----------------------------------------|
| Waste identification (the Netherlands) | LWCA (the Netherlands): KGA category 06 |
| Waterbezwaarlijkheid | 9 |

Reason for revision: ATP4

Publication date: 2011-10-31

Date of revision: 2014-10-24

Reference number: 1300

Revision number: 0100

Product number: 10334

10 / 11

ethene, liquefied, under pressure

National legislation Germany

| | |
|------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| TRGS905 - Krebserzeugend | - |
| TRGS905 - Erbgutverändernd | 3 |
| TRGS905 - Fruchtbarkeitsgefährdend | - |
| MAK - Krebserzeugend Kategorie | 3B |
| WGK | nwg; Classification non-water polluting in compliance with Verwaltungsvorschrift wassergefährdender Stoffe (VwVwS) of 27 July 2005 (Anhang 1) |
| TA-Luft | 5.2.5; I 5.2.5 |

National legislation France

No data available

National legislation Belgium

No data available

Other relevant data

| | |
|-----------------------|--------------|
| IARC - classification | 3; Ethylene |
| TLV - Carcinogen | Ethylene; A4 |

15.2 Chemical safety assessment:

A chemical safety assessment has been performed.

SECTION 16: Other information

Labelling according to Directive 67/548/EEC-1999/45/EC (DSD/DPD)

Labelling in accordance with 29th adaptation of Directive 67/548/EEC

Labels



Extremely flammable

R-phrases

- 12 Extremely flammable
67 Vapours may cause drowsiness and dizziness

S-phrases

- (02) (Keep out of the reach of children)
09 Keep container in a well-ventilated place
16 Keep away from sources of ignition - No smoking
33 Take precautionary measures against static discharges
(46) (If swallowed, seek medical advice immediately and show this container or label)

Full text of any R-phrases referred to under headings 2 and 3:

- R12 Extremely flammable
R67 Vapours may cause drowsiness and dizziness

Full text of any H-statements referred to under headings 2 and 3:

- H220 Extremely flammable gas.
H280 Contains gas under pressure; may explode if heated.
H336 May cause drowsiness or dizziness.

(*) = INTERNAL CLASSIFICATION BY BIG

PBT-substances = persistent, bioaccumulative and toxic substances

DSD Dangerous Substance Directive

DPD Dangerous Preparation Directive

CLP (EU-GHS) Classification, labelling and packaging (Globally Harmonised System in Europe)

The information in this safety data sheet is based on data and samples provided to BIG. The sheet was written to the best of our ability and according to the state of knowledge at that time. The safety data sheet only constitutes a guideline for the safe handling, use, consumption, storage, transport and disposal of the substances/preparations/mixtures mentioned under point 1. New safety data sheets are written from time to time. Only the most recent versions may be used. Old versions must be destroyed. Unless indicated otherwise word for word on the safety data sheet, the information does not apply to substances/preparations/mixtures in purer form, mixed with other substances or in processes. The safety data sheet offers no quality specification for the substances/preparations/mixtures in question. Compliance with the instructions in this safety data sheet does not release the user from the obligation to take all measures dictated by common sense, regulations and recommendations or which are necessary and/or useful based on the real applicable circumstances. BIG does not guarantee the accuracy or exhaustiveness of the information provided and cannot be held liable for any changes by third parties. This safety data sheet is only to be used within the European Union, Switzerland, Iceland, Norway and Liechtenstein. Any use outside of this area is at your own risk. Use of this safety data sheet is subject to the licence and liability limiting conditions as stated in your BIG licence agreement or when this is failing the general conditions of BIG. All intellectual property rights to this sheet are the property of BIG and its distribution and reproduction are limited. Consult the mentioned agreement/conditions for details.

Reason for revision: ATP4

Publication date: 2011-10-31

Date of revision: 2014-10-24

Reference number: 1300

Revision number: 0100

Product number: 10334

11 / 11