

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

1.1. Product identifier

Product form : Substance
 Trade name : Ethylene
 Chemical name : Ethylene
 EC Index-No. : 601-010-00-3
 EC-No. : 200-815-3
 CAS-No. : 74-85-1
 REACH registration No : 01-2119462827-27
 Product code : P013
 Formula : C₂H₄

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

1.2.1. Relevant identified uses

Use of the substance/mixture : Manufacture of rubber products

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Supplier (Only Representative):
 Braskem Netherland BV
 Weena 238-240, 9th Floor, Tower C
 NL - 3012 NJ – Rotterdam
 T+31 10 798 5002
 productsafety@braskem.com

1.4. Emergency telephone number

Emergency number : CHEMTREC International: +1 703-741-5970

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Flammable gases, Category 1A H220
 Specific target organ toxicity – Single exposure, Category 3, Narcosis H336
 Gases under pressure : Liquefied gas H280
 Full text of H- and EUH-statements: see section 16

Adverse physicochemical, human health and environmental effects

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

2.2. Label elements

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

Hazard pictograms (CLP) :



Signal word (CLP) :

Danger

Hazard statements (CLP) :

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

Precautionary statements (CLP) :

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking, heat, sparks, open flames, hot surfaces.
 P261 - Avoid breathing dust, fume, gas, mist, vapours, spray.
 P304+P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
 P377 - Leaking gas fire: Do not extinguish, unless leak can be stopped safely.
 P381 - In case of leakage, eliminate all ignition sources.
 P410+P403 - Protect from sunlight. Store in a well-ventilated place.

2.3. Other hazards

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

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The substance is not included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605

SECTION 3: Composition/information on ingredients

3.1. Substances

| Name | Product identifier | % |
|--------|---|--------|
| Ethene | CAS-No.: 74-85-1 EC-No.: 200-815-3 EC Index-No.: 601-010-00-3 REACH-no: 01-2119462827-27 | > 99.5 |

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

| | |
|---------------------------------------|---|
| First-aid measures after inhalation | : Remove person to fresh air and keep comfortable for breathing. If breathing stops, give artificial respiration. Administer oxygen if breathing is difficult. Get immediate medical advice/attention. |
| First-aid measures after skin contact | : Remove contaminated clothing and shoes. Rinse immediately with plenty of water (for at least 15 minutes). Get medical advice/attention. Wash clothing before re-using. Clothing frozen to the skin should be thawed before being removed. Thaw frosted parts with lukewarm water. Do not rub affected area. Obtain medical attention. |
| First-aid measures after eye contact | : Rinse immediately with plenty of water. Continue to rinse eye with clean water for 20-30 minutes, retracting eyelids often. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical advice/attention. |
| First-aid measures after ingestion | : Not specifically applicable (gas). |

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

| | |
|-------------------------------------|---|
| Symptoms/effects | : Symptoms may include dizziness, headache, nausea and loss of coordination. |
| Symptoms/effects after inhalation | : In high concentrations may cause asphyxiation. Symptoms may include loss of mobility/consciousness. Victim may not be aware of asphyxiation. May cause drowsiness or dizziness. |
| Symptoms/effects after skin contact | : May cause frostbite. The skin may present itself with white or yellow tone, with waxy aspect. |
| Symptoms/effects after eye contact | : May cause frostbite. |

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

Treat symptomatically. Do not rub the skin and eyes after direct contact with the product.

SECTION 5: Firefighting measures

5.1. Extinguishing media

| | |
|--------------------------------|--|
| Suitable extinguishing media | : Carbon dioxide (CO ₂), dry chemical powder, foam. Water spray. |
| Unsuitable extinguishing media | : Do not use a solid water stream as it may scatter and spread fire. |

5.2. Special hazards arising from the substance or mixture

| | |
|------------------|--|
| Fire hazard | : Extremely flammable gas. Agitation can cause build up of electrostatic charge. |
| Explosion hazard | : Risk of explosion if heated in a confined system. |

5.3. Advice for firefighters

| | |
|---------------------------------------|--|
| Firefighting instructions | : Cool closed containers exposed to fire with water spray. |
| Protective equipment for firefighters | : Extra personal protection: complete protective clothing including self-contained breathing apparatus. For further information refer to section 8: "Exposure controls/personal protection". |

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

| | |
|----------------------|--|
| Protective equipment | : Wear suitable protective clothing, gloves and eye or face protection. For further information refer to section 8: "Exposure controls/personal protection". |
| Emergency procedures | : No flames, no sparks. Eliminate all sources of ignition. Evacuate unnecessary personnel. |

6.1.2. For emergency responders

| | |
|----------------------|---|
| Protective equipment | : Wear suitable protective clothing, gloves and eye/face protection. For further information refer to section 8: "Exposure controls/personal protection". |
| Emergency procedures | : Eliminate every possible source of ignition. |

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6.2. Environmental precautions

Avoid release to the environment. Avoid sub-soil penetration.

6.3. Methods and material for containment and cleaning up

For containment : Ventilate area. Cut off gas supply.
Methods for cleaning up : Ventilate the area thoroughly.

6.4. Reference to other sections

For further information refer to section 8: "Exposure controls/personal protection". For disposal of residues refer to section 13 : "Disposal considerations".

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Avoid contact with skin and eyes. Avoid inhalation of the product. Use grounded electrical/mechanical equipment. Ground/bond container and receiving equipment. Have fire-fighting and leak stopping equipment readily available.

Hygiene measures : Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Store only in a limited quantity. Store in dry, cool, well-ventilated area. Keep the cylinders at vertical position, fixed to the wall or other solid structure. Ensure cylinder valve is closed and not leaking. Do not store underground.

Incompatible materials : Strong oxidizing agents (like fluorite, perchlorates, chlorine dioxide, nitrates, permanganates and peroxides): may react violently and rises fire and explosion risk. Strong acid (like hydrobromic, nitric, sulphuric and hydrochloric acids): may react violently or vigorously, with fire and explosion risk. Halocarbons (like bromotrchloromethane, carbon tetrachloride, chlorotrifluoroethylene and tetrafluoroethylene): may explode violently. Chlorine. Nitrogen oxides. Copper and its alloys. Aluminium chloride. Ozone.

Packaging materials : Carbon steel. Stainless steel.

7.3. Specific end use(s)

See Section 1.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

| Ethylene (74-85-1) | |
|---|---|
| Belgium - Occupational Exposure Limits | |
| Local name | Ethylène # Etheen |
| OEL TWA | 233 mg/m ³ |
| OEL TWA [ppm] | 200 ppm |
| Remark | 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. # A: de vermelding "A" betekent dat dit agens gas of damp vrijgeeft dat of die op zich geen fysiologische werking heeft, maar het zuurstofgehalte in de lucht verlaagt. Wanneer het zuurstofgehalte daalt onder de 17-18 % (vol/vol), veroorzaakt het zuurstoftekort verstikking, die zich manifesteert zonder dat er een waarschuwing aan voorafgaat. |
| Regulatory reference | Koninklijk besluit/Arrêté royal 11/05/2021 |
| Finland - Occupational Exposure Limits | |
| Local name | Etyleeni |
| HTP (OEL TWA) [2] | 200 ppm |
| Remark | Happea syrjäyttämällä tukahduttavat kaasut. |
| Regulatory reference | HTP-ARVOT 2020 (Sosiaali- ja terveystministeriö) |
| Ireland - Occupational Exposure Limits | |
| Local name | Ethylene |

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| Ethylene (74-85-1) | |
|---|--|
| OEL TWA [2] | 200 ppm |
| Remark | Asphx. (Gaseous chemical substances which may not produce significant physiological effects in the exposed employee, but when present in high concentrations will act as simple asphyxiants) |
| Regulatory reference | Chemical Agents Code of Practice 2021 |
| Latvia - Occupational Exposure Limits | |
| Local name | Etilēns |
| OEL TWA | 100 mg/m ³ |
| Regulatory reference | Ministru kabineta 2007. gada 15. maija noteikumiem Nr. 325 |
| Lithuania - Occupational Exposure Limits | |
| Local name | Etilenas |
| IPRV (OEL TWA) | 100 mg/m ³ |
| Regulatory reference | LIETUVOS HIGIENOS NORMA HN 23:2011 (Nr. V-695/A1-272, 2018-06-12) |
| Portugal - Occupational Exposure Limits | |
| Local name | Etileno |
| OEL TWA [ppm] | 200 ppm |
| Remark | A4 (Agente não classificável como carcinogénico no Homem) |
| Regulatory reference | Norma Portuguesa NP 1796:2014 |
| Spain - Occupational Exposure Limits | |
| Local name | Etileno |
| VLA-ED (OEL TWA) [2] | 200 ppm |
| Regulatory reference | Límites de Exposición Profesional para Agentes Químicos en España 2022. INSHT |
| Sweden - Occupational Exposure Limits | |
| Local name | Eten |
| NGV (OEL TWA) | 330 mg/m ³ |
| NGV (OEL TWA) [ppm] | 250 ppm |
| KTV (OEL STEL) | 1200 mg/m ³ |
| KTV (OEL STEL) [ppm] | 1000 ppm |
| Remark | V (Vägledande kortidsgränsvärde ska användas som ett rekommenderat högsta värde som inte bör överskridas) |
| Regulatory reference | Hygieniska gränsvärden (AFS 2018:1) |
| USA - ACGIH - Occupational Exposure Limits | |
| Local name | Ethylene |
| ACGIH OEL TWA [ppm] | 200 ppm |
| Remark (ACGIH) | TLV® Basis: Asphyxia. Notations: A4 (Not classifiable as a Human Carcinogen) |
| Regulatory reference | ACGIH 2022 |

8.1.2. Recommended monitoring procedures

No additional information available

8.1.3. Air contaminants formed

No additional information available

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8.1.4. DNEL and PNEC

DNEL : Not applicable
PNEC : Not applicable

8.1.5. Control banding

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Appropriate engineering controls:

Provide local exhaust or general room ventilation to minimize vapour concentrations. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

8.2.2. Personal protection equipment

8.2.2.1. Eye and face protection

Eye protection:

Chemical goggles. Contact lenses should not be worn. EN 166

8.2.2.2. Skin protection

Skin and body protection:

Long sleeved protective clothing

Hand protection:

Protective gloves made of PVC. Polyvinylchloride (PVC). EN 374

8.2.2.3. Respiratory protection

Respiratory protection:

Filtering respiratory protective device with a specific gas canister

8.2.2.4. Thermal hazards

No additional information available

8.2.3. Environmental exposure controls

No additional information available

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | |
|---|--|
| Physical state | : Gas |
| Colour | : Colourless. |
| Molecular mass | : 28.05 g/mol |
| Odour | : Sweet. |
| Odour threshold | : Not available |
| Melting point | : -169.15 °C |
| Freezing point | : Not applicable |
| Boiling point | : -103.7 °C @ 1 atm (-14.2 °C @ 30 atm) |
| Flammability | : Not available |
| Explosive limits | : Not available |
| Lower explosion limit | : Not available |
| Upper explosion limit | : Not available |
| Flash point | : ≈ -136 °C (Closed cup) |
| Auto-ignition temperature | : 490 °C @ 1 atm (425 to 543 °C) |
| Decomposition temperature | : 9.6 °C |
| pH | : Not applicable |
| Viscosity, kinematic | : 0.018 mm ² /s |
| Viscosity, dynamic | : 0.01 cP gas |
| Solubility | : Soluble in: Acetone. Benzene. Diethyl ether. Ethylene oxide. Water: Slightly soluble Ethanol: Slightly soluble |
| Partition coefficient n-octanol/water (Log Kow) | : Not available |
| Partition coefficient n-octanol/water (Log Pow) | : 1.13 |
| Vapour pressure | : 4100 kPa (30753 mm Hg) |
| Vapour pressure at 50°C | : Not available |
| Density | : 0.57 Liquid (130.8 °C) |

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| | |
|---------------------------------|------------------|
| Relative density | : Not applicable |
| Relative vapour density at 20°C | : 0.98 (air =1) |
| Particle characteristics | : Not applicable |

9.2. Other information

9.2.1. Information with regard to physical hazard classes

| | |
|----------------------|---------------------|
| Critical temperature | : 9.9 °C (49.82 °F) |
|----------------------|---------------------|

9.2.2. Other safety characteristics

| | |
|-----------|---------------------|
| Gas group | : Press. Gas (Liq.) |
|-----------|---------------------|

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Stable at ambient temperature and under normal conditions of use.

10.3. Possibility of hazardous reactions

Polymerize at high pressures (60 – 350 mPa) and temperatures (above 350 °C) on presence of high energy initiators, like heating or electricity. Strong oxidizing agents (like fluorite, perchlorates, chlorine dioxide, nitrates, permanganates and peroxides): may react violently and rises fire and explosion risk. Strong acid (like hydrobromic, nitric, sulphuric and hydrochloric acids): may react violently or vigorously, with fire and explosion risk. Halocarbons (like bromotrichloromethane, carbon tetrachloride, chlorotrifluoroethylene and tetrafluoroethylene): may explode violently. Chlorine: reacts explosively in presence of solar or ultraviolet light, or in presence of mercury oxides or silver oxide. Aluminum chloride: may react violently or explosively, specially in presence of dichloromethane, nickel catalyzer or nitromethane. Nitrogen oxides or ozone: forms extremely unstable compound, that may explode. Copper: ethylene polymerization may become violent at high pressures and temperatures. Molecular screen (like zeolites) with 5A pore: may occur exothermic and violent reactions. Lithium: explosive reaction may occur. Hydrogen: explosive hydrogenation reaction may occur when heated.

10.4. Conditions to avoid

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Avoid static electricity discharges.

10.5. Incompatible materials

Strong oxidizing agents (like fluorite, perchlorates, chlorine dioxide, nitrates, permanganates and peroxides): may react violently and rises fire and explosion risk. Strong acid (like hydrobromic, nitric, sulphuric and hydrochloric acids): may react violently or vigorously, with fire and explosion risk. Halocarbons (like bromotrichloromethane, carbon tetrachloride, chlorotrifluoroethylene and tetrafluoroethylene): may explode violently.

10.6. Hazardous decomposition products

Explosive decomposition may occur in the absence of air at high temperatures (360 °C) and pressures (17 MPa).

SECTION 11: Toxicological information

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

| | |
|-----------------------------|---|
| Acute toxicity (oral) | : Not classified (Based on available data, the classification criteria are not met) |
| Acute toxicity (dermal) | : Not classified (Based on available data, the classification criteria are not met) |
| Acute toxicity (inhalation) | : Not classified (Based on available data, the classification criteria are not met) |

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| | |
|-----------------------------------|---|
| LC50 Inhalation - Rat [ppm] | > 57000 ppm/4h |
| Skin corrosion/irritation | : Not classified (Based on available data, the classification criteria are not met) |
| Serious eye damage/irritation | : Not classified (Based on available data, the classification criteria are not met) |
| Respiratory or skin sensitisation | : Not classified (Based on available data, the classification criteria are not met) |
| Germ cell mutagenicity | : Not classified (Based on available data, the classification criteria are not met) |
| Carcinogenicity | : Not classified (Based on available data, the classification criteria are not met) |
| Reproductive toxicity | : Not classified (Based on available data, the classification criteria are not met) |
| STOT-single exposure | : May cause drowsiness or dizziness. |
| STOT-repeated exposure | : Not classified (Based on available data, the classification criteria are not met) |

Ethylene (74-85-1)

| | |
|---------------------------------------|---|
| LOAEC (inhalation, rat, gas, 90 days) | 300 ppmv/6h/day |
| NOAEC (inhalation, rat, gas, 90 days) | 10000 ppmv/6h/day |
| Aspiration hazard | : Not classified (Based on available data, the classification criteria are not met) |

Ethylene (74-85-1)

| | |
|----------------------|--------------------------|
| Viscosity, kinematic | 0.018 mm ² /s |
|----------------------|--------------------------|

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11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

Adverse health effects caused by endocrine disrupting properties : None known

11.2.2. Other information

Other information : Likely routes of exposure: inhalation, skin and eye.

SECTION 12: Ecological information

12.1. Toxicity

Hazardous to the aquatic environment, short-term (acute) : Not classified (Based on available data, the classification criteria are not met)

Hazardous to the aquatic environment, long-term (chronic) : Not classified (Based on available data, the classification criteria are not met)

| Ethylene (74-85-1) | |
|--------------------|---|
| ErC50 algae | 30.327 mg/l Data obtained by analogy conclusion, e.g. QSAR. |
| NOEC (acute) | 13.9 mg/l |

12.2. Persistence and degradability

| Ethylene (74-85-1) | |
|-------------------------------|------------------------|
| Persistence and degradability | Readily biodegradable. |

12.3. Bioaccumulative potential

| Ethylene (74-85-1) | |
|---|--------|
| BCF - Fish [1] | > 2000 |
| Partition coefficient n-octanol/water (Log Pow) | 1.13 |

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

| Ethylene (74-85-1) | |
|--|--|
| 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 | |
| Results of PBT assessment | This substance does not meet the criteria for classification as PBT or vPvB. |

12.6. Endocrine disrupting properties

No additional information available

12.7. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Regional legislation (waste) : Dispose in a safe manner in accordance with local/national regulations. Consult an expert on waste disposal or treatment.

Product/Packaging disposal recommendations : Dispose of this material and its container at hazardous or special waste collection point.

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 1038 | UN 1038 | UN 1038 | UN 1038 | UN 1038 |
| 14.2. UN proper shipping name | | | | |
| ETHYLENE, REFRIGERATED LIQUID | ETHYLENE, REFRIGERATED LIQUID | Ethylene, refrigerated liquid | ETHYLENE, REFRIGERATED LIQUID | ETHYLENE, REFRIGERATED LIQUID |

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| ADR | IMDG | IATA | ADN | RID |
|---|---|--|---|---|
| Transport document description | | | | |
| UN 1038 ETHYLENE, REFRIGERATED LIQUID, 2.1, (B/D) | UN 1038 ETHYLENE, REFRIGERATED LIQUID, 2.1 | UN 1038 Ethylene, refrigerated liquid, 2.1 | UN 1038 ETHYLENE, REFRIGERATED LIQUID, 2.1 | UN 1038 ETHYLENE, REFRIGERATED LIQUID, 2.1 |
| 14.3. Transport hazard class(es) | | | | |
| 2.1 | 2.1 | 2.1 | 2.1 | 2.1 |
|  |  | Not applicable |  |  |
| 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 | | | | |

14.6. Special precautions for user

Special transport precautions : This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material

Overland transport

Classification code (ADR) : 3F
Limited quantities (ADR) : 0
Excepted quantities (ADR) : E0
Packing instructions (ADR) : P203
Mixed packing provisions (ADR) : MP9
Portable tank and bulk container instructions (ADR) : T75
Portable tank and bulk container special provisions (ADR) : TP5
Tank code (ADR) : RxBN
Tank special provisions (ADR) : TU18, TA4, TT9
Vehicle for tank carriage : FL
Transport category (ADR) : 2
Special provisions for carriage - Packages (ADR) : V5
Special provisions for carriage - Loading, unloading and handling (ADR) : CV9, CV11, CV36
Special provisions for carriage - Operation (ADR) : S2, S17
Hazard identification number (Kemler No.) : 223
Orange plates : 
Tunnel restriction code (ADR) : B/D

Transport by sea

Limited quantities (IMDG) : 0
Excepted quantities (IMDG) : E0
Packing instructions (IMDG) : P203
Tank instructions (IMDG) : T75
Tank special provisions (IMDG) : TP5

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| | |
|------------------------------------|--|
| EmS-No. (Fire) | : F-D |
| EmS-No. (Spillage) | : S-U |
| Stowage category (IMDG) | : D |
| Stowage and handling (IMDG) | : SW2 |
| Properties and observations (IMDG) | : Explosive limits: 3% to 34% Lighter than air (0.98). |

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) | : 10A |

Inland waterway transport

| | |
|-----------------------------------|-------------|
| Classification code (ADN) | : 3F |
| 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) | : 3F |
| Limited quantities (RID) | : 0 |
| Excepted quantities (RID) | : E0 |
| Packing instructions (RID) | : P203 |
| Mixed packing provisions (RID) | : MP9 |
| Portable tank and bulk container instructions (RID) | : T75 |
| Portable tank and bulk container special provisions (RID) | : TP5 |
| Tank codes for RID tanks (RID) | : RxBN |
| Special provisions for RID tanks (RID) | : TU18, TU38, TE22, TA4, TT9, TM6 |
| Transport category (RID) | : 2 |
| Special provisions for carriage – Packages (RID) | : W5 |
| Special provisions for carriage - Loading, unloading and handling (RID) | : CW9, CW11, CW36 |
| Colis express (express parcels) (RID) | : CE2 |
| Hazard identification number (RID) | : 223 |

14.7. Maritime transport in bulk according to IMO instruments

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)

Not listed on REACH Annex XVII

REACH Annex XIV (Authorisation List)

Not listed on REACH Annex XIV (Authorisation List)

REACH Candidate List (SVHC)

Not listed on the REACH Candidate List

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)

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Ozone Regulation (1005/2009)

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

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

Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active

Listed on the Canadian DSL (Domestic Substances List)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Subject to reporting requirements of United States SARA Section 313

Listed introduction on Australian Industrial Chemicals Introduction Scheme (AICIS Inventory)

Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

Listed on the Japanese ENCS (Existing New Chemical Substances) inventory

Listed on KECL/KECI (Korean Existing Chemicals Inventory)

Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)

Listed on NZIoC (New Zealand Inventory of Chemicals)

Listed on the Japanese ISHL (Industrial Safety and Health Law)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

Listed on the TCSI (Taiwan Chemical Substance Inventory)

Listed on the NCI (Vietnam - National Chemical Inventory)

Germany

Water hazard class (WGK) : WGK nwg, Non-hazardous to water (Classification according to VwVwS, Annex 1 or 2).

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

Netherlands

SZW-lijst van kankerverwekkende stoffen : The substance is not listed

SZW-lijst van mutagene stoffen : The substance is not listed

SZW-lijst van reprotoxische stoffen – Borstvoeding : The substance is not listed

SZW-lijst van reprotoxische stoffen –

Vruchtbaarheid

SZW-lijst van reprotoxische stoffen – Ontwikkeling : The substance is not listed

Denmark

Class for fire hazard : Class I-1

Store unit : 1 liter

Classification remarks : F+ <Flam. Gas 1; Press. Gas>; Emergency management guidelines for the storage of flammable liquids must be followed

Danish National Regulations : Young people under 18 years are not allowed to use the product

15.2. Chemical safety assessment

A chemical safety assessment has been carried out.

SECTION 16: Other information

| Indication of changes | | | |
|-----------------------|--|----------|----------|
| Section | Changed item | Change | Comments |
| 1.1 | Product identifier | Modified | |
| 1.3 | Details of the supplier of the safety data sheet | Modified | |
| 1.4 | Emergency number | Modified | |
| 2.3 | Other hazards | Added | |
| 8.1 | Control parameters | Modified | |
| 9.2 | Other information | Modified | |
| 11.1 | Information on hazard classes as defined in Regulation (EC) No 1272/2008 | Modified | |

Ethylene

Safety Data Sheet

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

| Indication of changes | | | |
|-----------------------|------------------------------------|----------|----------|
| Section | Changed item | Change | Comments |
| 11.2. | Information on other hazards | Added | |
| 12.5 | Results of PBT and vPvB assessment | Modified | |
| 15 | Regulatory information | Modified | |

| Full text of H- and EUH-statements: | |
|-------------------------------------|--|
| Flam. Gas 1A | Flammable gases, Category 1A |
| H220 | Extremely flammable gas. |
| H280 | Contains gas under pressure; may explode if heated. |
| H336 | May cause drowsiness or dizziness. |
| Press. Gas (Liq.) | Gases under pressure : Liquefied gas |
| STOT SE 3 | Specific target organ toxicity – Single exposure, Category 3, Narcosis |

Braskem - SDS_EU (modified 221026)

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. It warns that the handling of any chemical substance requires the previous knowledge of its hazards for the user. It is up to the user of the product company providing this SDS to and promote the training of its employees about possible risks come upon of the product. The information contained herein is not absolute, but only general information on the use of the chemical and indication of safety and security measures.