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

1.1. Product identifier

Product form : Substance
 Trade name/designation : Butane
 Chemical name : Butane
 EC Index : 601-004-00-0
 EC-No. : 203-448-7
 CAS-No. : 106-97-8
 REACH registration No : 01-2119474691-32-0031
 Product group : Trade product

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

1.2.1. Relevant identified uses

Main use category : Industrial use, Professional use, Consumer use
 Use of the substance/mixture :

- Manufacture
- Distribution
- Blowing agent
- Formulation
- Polymer
- Functional fluids
- Fuels
- Propellant

1.2.2. Uses advised against

No data available


1.3. Details of the supplier of the safety data sheet

Trafigura Ventures V.B.V.
 Evert van de Beekstraat 1-82
 The Base, Tower B - 5th Floor
 1118 CL Schiphol - The Netherlands
 T +31 20 504 1800
TrafiguraReach@trafigura.com

1.4. Emergency telephone number

Emergency number : +32 3 575 03 30
 This telephone number is available 24 hours per day, 7 days per week.

Country	Official advisory body	Address	Emergency number
Ireland	National Poisons Information Centre Beaumont Hospital	Beaumont Hospital Beaumont Road 9 Dublin	+353 1 809 21 66 (public, 8am - 10pm, 7/7) +353 01 809 2566 (Professionals, 24/7)
United Kingdom	National Poisons Information Service (Newcastle Centre) Regional Drugs and Therapeutics Centre, Wolfson Unit	Claremont Place Newcastle-upon-Tyne NE1 4LP Newcastle	0844 892 0111 (UK only, 24/7, healthcare professionals only)

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SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Flam. Gas 1 H220

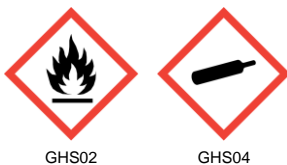
Press. Gas (Liq.) H280

Full text of H statements : see section 16

2.2. Label elements

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

Hazard pictograms (CLP) :



Signal word :

Danger

Hazard statements (CLP) :

H220 - Extremely flammable gas.
H280 - Contains gas under pressure; may explode if heated.

Precautionary statements (CLP) :

P102 - Keep out of reach of children.
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P243 - Take action to prevent static discharges.
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.

Listed in Annex VI :

EC Index-No. : 601-004-00-0

2.3. Other hazards

Other hazards


: PBT/vPvB data. This substance does not meet the PBT/vPvB criteria of REACH, annex XIII.

SECTION 3: Composition/information on ingredients

3.1. Substances

Substance name : Butane
CAS-No. : 106-97-8
EC-No. : 203-448-7
EC Index : 601-004-00-0

Substance name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Butane	(CAS-No.) 106-97-8 (EC-No.) 203-448-7 (EC Index) 601-004-00-0 (REACH-no) 01-2119474691-32-0031	100	Flam. Gas 1, H220 Press. Gas (Liq.), H280

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Full text of H-statements: see section 16

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

Additional advice	: First aider: Pay attention to self-protection. See also section 8 . Treat symptomatically. Never give anything by mouth to an unconscious person. Show this safety data sheet to the doctor in attendance. In case of doubt or persistent symptoms, consult always a physician.
Inhalation	: Keep at rest. Provide fresh air. If unconscious place in recovery position and seek medical advice. Give oxygen or artificial respiration if necessary. Get medical advice/attention.
Skin contact	: In case of frostbite, wash with plenty of water; do not remove clothing. Cover wounds with sterile bandage. Get medical advice/attention.
Eyes contact	: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical advice/attention.
Ingestion	: Ingestion is not considered a potential route of exposure.

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

Inhalation	: May be irritating.
Skin contact	: Contact with liquid or refrigerated gas can cause cold burns and frostbite.
Eyes contact	: Causes frostbite burns to eyes.
Ingestion	: Ingestion is not considered a potential route of exposure.

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

No data available

SECTION 5: Firefighting measures

5.1. Extinguishing media


Suitable extinguishing media	: Carbon dioxide. dry extinguishing powder. Alcohol resistant foam. Water spray .
Unsuitable extinguishing media	: Strong water jet.

5.2. Special hazards arising from the substance or mixture

Specific hazards	: Vapours are heavier than air and may spread along floors. Heating causes rise in pressure with risk of bursting. Container may explode if heated.
Explosion hazard	: Vapours may form explosive mixture with air. Vapours are heavier than air and may travel considerable distance to an ignition source and flash back to source of vapours.
Hazardous decomposition products in case of fire	: Carbon oxides (CO, CO2).

5.3. Advice for firefighters

Firefighting instructions	: Use water spray or fog for cooling exposed containers. Evacuate personnel to a safe area.
Protection during firefighting	: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus.
Other information	: Do not allow run-off from fire-fighting to enter drains or water courses. Dispose of waste in accordance with environmental legislation.

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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

For non-emergency personnel : Stay upwind/keep distance from source. Provide adequate ventilation. Evacuate personnel to a safe area. Vapours are heavier than air and may spread along floors. Use personal protective equipment as required. Concerning personal protective equipment to use, see section 8. Avoid contact with skin, eyes and clothing. Do not breathe gas. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ensure equipment is adequately earthed. Use explosion-proof equipment. Use only non-sparking tools.

6.1.2. For emergency responders

For emergency responders : Ensure procedures and training for emergency decontamination and disposal are in place. Concerning personal protective equipment to use, see section 8.

6.2. Environmental precautions

Do not allow to enter into surface water or drains.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Stop leak if safe to do so. Leave evaporate and disperse. Hose down gases, fumes and/or dust with water. All processes must be supervised by specialists or authorised personnel.

6.4. Reference to other sections

Concerning personal protective equipment to use, see section 8. Concerning disposal elimination after cleaning, see section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Provide adequate information, instruction and training for operators. Extremely cold liquid and gas under pressure. Causes severe frostbite. Provide adequate ventilation. Use personal protective equipment as required. Concerning personal protective equipment to use, see section 8. Do not breathe gas. Avoid contact with skin, eyes and clothing. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ensure equipment is adequately earthed. Keep container tight closed.

Hygiene measures : Keep good industrial hygiene. When using do not eat, drink or smoke. Wash hands and face before breaks and immediately after handling of the product. Take off contaminated clothing.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Gases under pressure : Liquefied gas. Keep container tightly closed in a cool, well-ventilated place. Refer to the detailed list of incompatible materials in section 10 Stability/Reactivity.

Incompatible substances or mixtures : Strong oxidizing agents. Acids.

Heat and ignition sources : Keep away from open flames, hot surfaces and sources of ignition. Do not smoke.

Packaging materials : Keep only in the original container. Steel.


7.3. Specific end use(s)

Not applicable.


SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Butane (106-97-8)		
Austria	MAK (mg/m ³)	1900 mg/m ³

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Butane (106-97-8)		
Austria	MAK (ppm)	800 ppm
Austria	MAK Short time value (mg/m ³)	3800 mg/m ³
Austria	MAK Short time value (ppm)	1600 ppm
Belgium	Limit value (ppm)	1000 ppm (gas)
Bulgaria	OEL TWA (mg/m ³)	1900 mg/m ³
Croatia	GVI (granična vrijednost izloženosti) (mg/m ³)	1450 mg/m ³ 22 mg/m ³ (containing >=0.1% 1,3-Butadiene)
Croatia	GVI (granična vrijednost izloženosti) (ppm)	600 ppm 10 ppm (containing >=0.1% 1,3-Butadiene)
Croatia	KGVI (kratkotrajna granična vrijednost izloženosti) (mg/m ³)	1810 mg/m ³
Croatia	KGVI (kratkotrajna granična vrijednost izloženosti) (ppm)	750 ppm
Denmark	Grænseværdie (langvarig) (mg/m ³)	1200 mg/m ³
Denmark	Grænseværdie (langvarig) (ppm)	500 ppm
Estonia	OEL TWA (mg/m ³)	1500 mg/m ³
Estonia	OEL TWA (ppm)	800 ppm
Finland	HTP-arvo (8h) (mg/m ³)	1900 mg/m ³
Finland	HTP-arvo (8h) (ppm)	800 ppm
Finland	HTP-arvo (15 min)	2400 mg/m ³
Finland	HTP-arvo (15 min) (ppm)	1000 ppm
France	VME (mg/m ³)	1900 mg/m ³
France	VME (ppm)	800 ppm
Germany	TRGS 900 Occupational exposure limit value (mg/m ³)	2400 mg/m ³
Germany	TRGS 900 Occupational exposure limit value (ppm)	1000 ppm
Greece	OEL TWA (mg/m ³)	2350 mg/m ³
Greece	OEL TWA (ppm)	1000 ppm
Hungary	AK-érték	2350 mg/m ³
Hungary	CK-érték	9400 mg/m ³
Ireland	OEL (8 hours ref) (ppm)	1000 ppm
Ireland	OEL (15 min ref) (ppm)	3000 ppm (calculated)
Latvia	OEL TWA (mg/m ³)	300 mg/m ³
Poland	NDS (mg/m ³)	1900 mg/m ³
Poland	NDSch (mg/m ³)	3000 mg/m ³
Slovenia	OEL TWA (mg/m ³)	2400 mg/m ³ (containing >=0.1% Butadiene)
Slovenia	OEL TWA (ppm)	1000 ppm (containing >=0.1% Butadiene)
Slovenia	OEL STEL (mg/m ³)	9600 mg/m ³ (containing >=0.1% Butadiene)
Slovenia	OEL STEL (ppm)	4000 ppm (containing >=0.1% Butadiene)
United Kingdom	WEL TWA (mg/m ³)	1450 mg/m ³
United Kingdom	WEL TWA (ppm)	600 ppm
United Kingdom	WEL STEL (mg/m ³)	1810 mg/m ³


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Butane (106-97-8)		
United Kingdom	WEL STEL (ppm)	750 ppm
Norway	Grenseverdier (AN) (mg/m ³)	600 mg/m ³
Norway	Grenseverdier (AN) (ppm)	250 ppm
Norway	Grenseverdier (Korttidsverdi) (mg/m ³)	750 mg/m ³ (value calculated)
Norway	Grenseverdier (Korttidsverdi) (ppm)	312,5 ppm (value calculated)
Switzerland	MAK (mg/m ³)	1900 mg/m ³
Switzerland	MAK (ppm)	800 ppm
Switzerland	KZGW (mg/m ³)	7600 mg/m ³
Switzerland	KZGW (ppm)	3200 ppm
Australia	TWA (mg/m ³)	1900 mg/m ³
Australia	TWA (ppm)	800 ppm
Canada (Quebec)	VEMP (mg/m ³)	1900 mg/m ³
Canada (Quebec)	VEMP (ppm)	800 ppm
USA - ACGIH	ACGIH STEL (ppm)	1000 ppm (explosion hazard)
USA - IDLH	US IDLH (ppm)	1600 ppm (>10% LEL)
USA - NIOSH	NIOSH REL (TWA) (mg/m ³)	1900 mg/m ³
USA - NIOSH	NIOSH REL (TWA) (ppm)	800 ppm

Butane (106-97-8)	
DNEL/DMEL (additional information)	
Additional information	Not applicable. Gas
PNEC (additional information)	
Additional information	Not applicable. Gas

8.2. Exposure controls

Engineering measure(s)	: Closed system. Provide adequate ventilation. Use only in area provided with appropriate exhaust ventilation. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Take precautionary measures against static discharge. Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres. Use only explosion-proof equipment. Organisational measures to prevent /limit releases, dispersion and exposure. See also section 7.
Personal protective equipment	: The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
Hand protection	: The selection of specific gloves for a specific application and time of use in a working area, should also take into account other factors on the working space, such as (but not limited to): other chemicals that are possibly used, physical requirements (protection against cutting/drilling, skill, thermal protection), and the instructions/specification of the supplier of gloves. (EN 511). cold insulating gloves
Eye protection	: During splash contact: face shield (EN166)
Body protection	: Overalls, apron and boots recommended.
Respiratory protection	: If there is a risk of oxygen deficiency, use appropriate pressurised breathing protection. Use self-contained respiratory apparatus for rescue and maintenance work in storage vessels. Self-contained open-circuit compressed air breathing apparatus (EN 137)
Thermal hazard protection	: cold insulating gloves (EN511).

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SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Gas
Appearance	: Press. Gas (Liq.).
Colour	: Colourless.
Odour	: Characteristic.
Odour threshold	: No data available
pH	: NA: Gas
Relative evaporation rate (butylacetate=1)	: No data available
Melting / freezing point	: -187,6 - -138,3
Freezing point	: No data available
Initial boiling point and boiling range	: -161,48 - 0,5 °C
Flash point	: -104 - -60 °C
Auto-ignition temperature	: 287 - 537 °C
Decomposition temperature	: No data available
Flammability (solid, gas)	: Extremely flammable
Vapour pressure	: No data available
Vapour density	: No data available
Relative density	: No data available
Density	: 0,4228 - 0,589 g/cm ³ (25°C)
Solubility	: Water: 24,4 - 60,4 mg/l very low
Partition coefficient n-octanol/water	: 1,09 - 2,8
Kinematic viscosity	: No data available
Dynamic viscosity	: No data available
Explosive properties	: Not applicable . The study does not need to be conducted because there are no chemical groups associated with explosive properties present in the molecule.
Oxidising properties	: Not applicable. The classification procedure needs not to be applied because there are no chemical groups present in the molecule which are associated with oxidising properties.
Explosive limits	: LEL: 1,8% / UEL: 15%

9.2. Other information

No data available

SECTION 10: Stability and reactivity

10.1. Reactivity

Extremely flammable gas. Reference to other sections: 10.5.

10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

10.3. Possibility of hazardous reactions


Reacts vigorously with strong oxidizers and acids.

10.4. Conditions to avoid

Keep away from sources of heat (e.g. hot surfaces), sparks and open flames. See also section 7.

10.5. Incompatible materials

Strong oxidizing agents. See also section 7.

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10.6. Hazardous decomposition products

Carbon oxides.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified (Based on available data, the classification criteria are not met.)

Butane (106-97-8)	
LD50/oral/rat	study technically not feasible
LD50/dermal/rat	study technically not feasible
LC50/inhalation/4h/rat	658 g/m ³ (Exposure time: 4 h)

Skin corrosion/irritation : Not classified (Based on available data, the classification criteria are not met.)
Can cause frostbite.

pH: NA: Gas

Serious eye damage/irritation : Not classified (Based on available data, the classification criteria are not met.)
Can cause frostbite.

pH: NA: Gas

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.)
OECD Test Guideline 471

Carcinogenicity : Not classified (Not classified due to lack of data.)

Reproductive toxicity : Not classified (Based on available data, the classification criteria are not met.)
NOAEC : 9000 ppm - 21394 mg/m³

STOT-single exposure : Not classified (Based on available data, the classification criteria are not met.)

STOT-repeated exposure : Not classified (Based on available data, the classification criteria are not met.)
Systemic toxicity
Inhalation
NOAEC : 9000 ppm - 21394 mg/m³

Aspiration hazard : Not classified (Based on available data, the classification criteria are not met.)

Other information : Symptoms related to the physical, chemical and toxicological characteristics.
Reference to other sections: 4.2.

SECTION 12: Ecological information

12.1. Toxicity

Environmental properties : not hazardous.


Butane (106-97-8)	
EC50 Daphnia 1	14,22 mg/l (48h) US Environmental Protection Agency's Office of pollution Prevention (2008)
ErC50 (algae)	7,71 mg/l (96h) US Environmental Protection Agency's Office of pollution Prevention (2008)

12.2. Persistence and degradability

Butane (106-97-8)	
Persistence and degradability	Readily biodegradable.

12.3. Bioaccumulative potential

Butane (106-97-8)	
Partition coefficient n-octanol/water	1,09 - 2,8

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Butane (106-97-8)	
Partition coefficient n-octanol/water	2,89

12.4. Mobility in soil

Butane (106-97-8)	
Ecology - soil	Not applicable. Gas.

12.5. Results of PBT and vPvB assessment

No data available

12.6. Other adverse effects

No data available






SECTION 13: Disposal considerations


13.1. Waste treatment methods

Product/Packaging disposal recommendations	: Handle with care. Safe handling: see section 7. Handling and storage. Collect and dispose of waste product at an authorised disposal facility. Dispose of contaminated materials in accordance with current regulations.
Additional information	: Never use pressure to empty container. Do not burn, or use a cutting torch on the empty drum. Do not puncture or incinerate. Delivery to an approved waste disposal company. Dispose of contaminated materials in accordance with current regulations.
Further ecological information	: Do not allow to enter into surface water or drains.
European waste catalogue (2001/573/EC, 75/442/EEC, 91/689/EEC)	: Classified as hazardous waste according to European Union regulations. Waste codes should be assigned by the user, preferably in discussion with the waste disposal authorities.

SECTION 14: Transport information



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

ADR	IMDG	IATA	ADN	RID
14.1. UN number				
1011	1011	1011	1011	1011
14.2. UN proper shipping name				
BUTANE	BUTANE	Butane	BUTANE	BUTANE
Transport document description				
UN 1011 BUTANE, 2.1, (B/D)	UN 1011 BUTANE, 2.1	UN 1011 Butane, 2.1	UN 1011 BUTANE, 2.1	UN 1011 BUTANE, 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

- Overland transport


Classification code (ADR)	: 2F
Special provisions	: 652, 660, 657, 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 - Loading, unloading and handling (ADR)	: CV9, CV10, CV36
Special provisions for carriage - Operation (ADR)	: S2, S20
Hazard identification number (Kemler No.)	: 23
Orange plates	:  
Tunnel restriction code	: B/D
EAC code	: 2YE

- Transport by sea

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)	: E
Stowage and handling (IMDG)	: SW2
Properties and observations (IMDG)	: Flammable hydrocarbon gas. Explosive limits: 1.8% to 8.4% Heavier than air (2.11).

- 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

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ERG code (IATA) : 10L

- Inland waterway transport

Classification code (ADN) : 2F
 Special provisions (ADN) : 657, 66
 Limited quantities (ADN) : 0
 Excepted quantities (ADN) : E0
 Carriage permitted (ADN) : T
 Equipment required (ADN) : PP, EX, A
 Ventilation (ADN) : VE01
 Number of blue cones/lights (ADN) : 1

- Rail transport

Special provisions (RID) : 657, 660, 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) : 23

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

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

The following restrictions are applicable according to Annex XVII of the REACH Regulation (EC) No 1907/2006:

40. 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.	Butane - Butane
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Butane is not on the REACH Candidate List

Butane is not on the REACH Annex XIV List

15.1.2. National regulations

Germany

Reference to AwSV : Water hazard class (WGK) 1, low hazard to waters (ID No. 561)
 German storage class (LGK) : LGK 2A - Gases

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12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

Netherlands

Waterbezwaarlijkheid : 5 - Very toxic to aquatic organisms B (5)
 SZW-lijst van kankerverwekkende stoffen : The substance is not listed
 SZW-lijst van mutagene stoffen : The substance is not listed
 NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding : The substance is not listed
 NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid : The substance is not listed
 NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : The substance is not listed

15.2. Chemical safety assessment

For this substance a chemical safety assessment has been carried out

SECTION 16: Other information

Indication of changes:

SECTION.


1		Modified	
2		Modified	
15		Modified	
16		Modified	

Abbreviations and acronyms:

ADN = Accord Européen relatif au Transport International des Marchandises Dangereuses par voie de Navigation du Rhin
ADR = Accord européen relatif au transport international des marchandises Dangereuses par Route
CLP = Classification, Labelling and Packaging Regulation according to 1272/2008/EC
IATA = International Air Transport Association
IMDG = International Maritime Dangerous Goods Code
LEL = Lower Explosive Limit/Lower Explosion Limit
UEL = Upper Explosion Limit/Upper Explosive Limit
REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals
CSR = CSR = Chemical Safety Report
DNEL = DNEL = Derived No Effect Level
LD50 = Median lethal dose
N.O.S. = Not Otherwise Specified
PNEC = Predicted No Effect Concentration
STEL = Short term exposure limit
TLV = Threshold limits
TWA = time weighted average
persistent, bioaccumulating and toxic (PBT).
vPvB = very persistent and very bioaccumulating
WGK = Wassergefährdungsklasse (Water Hazard Class under German Federal Water Management Act)
NA= Not applicable

Sources of key data used to compile the datasheet : European Chemicals Bureau Chemical Safety Report. ECHA website.

Training advice : Training staff on good practice.

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		Revision nr : 2.0
	Butane	Issue date : 20/03/2018
		Supersedes : 22/08/2016

Full text of H- and EUH-statements:

Flam. Gas 1	Flammable gases, hazard category 1
Press. Gas (Liq.)	Gases under pressure : Liquefied gas
H220	Extremely flammable gas.
H280	Contains gas under pressure; may explode if heated.

According to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830
Classification according to Regulation (EC) No. 1272/2008 [CLP]
Labelling according to Regulation (EC) No. 1272/2008 [CLP]

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