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

1.1 Product identifier

Trade name — **Liquefied petroleum gas, mixture (propane/isobutane/ butane)**

Registration number (REACH) — not relevant (mixture)

CAS number — not relevant (mixture)

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

Relevant identified uses — Propellant

1.3 Details of the supplier of the safety data sheet

PROGAS GmbH & Co KG
Geschäftsbereich Aerosol
Westfalendamm 84-86
D-44141 Dortmund
Germany

Website: www.progas-aerosol.de

Tech. Service:
PROGAS GmbH & Co. KG
Hansastraße 54-56
30419 Hannover
Deutschland

Telephone: ++49 (0) 511-97996-14
Telefax: ++49 (0) 511-97996-30

e-mail (competent person) — sdb@csb-online.de

Please do not use this e-mail adress to ask for the latest safety data sheet. For this purpose contact PROGAS GmbH & Co KG.

National contact — frank.grosser@progas.de

1.4 Emergency telephone number

Emergency information service — +49 (0) 511-97996-62 (24h)

As above or next toxicological information centre.

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

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

Classification				
Section	**Hazard class**	**Category**	**Hazard class and category**	**Hazard statement**
2.2	flammable gas	1	Flam. Gas 1	H220
2.5	gas under pressure	L	Press. Gas L	H280

for full text of abbreviations: see SECTION 16

The most important adverse physicochemical, human health and environmental effects

Contains gas under pressure; may explode if heated.
The product is combustible and can be ignited by potential ignition sources.

2.2 Label elements

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

Signal word danger

Pictograms

GHS02

Hazard statements

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

Precautionary statements

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P377 Leaking gas fire: Do not extinguish, unless leak can be stopped safely.
P403 Store in a well-ventilated place.

2.3 Other hazards

Global warming potential.
May displace oxygen and cause rapid suffocation.

Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

SECTION 3: Composition/information on ingredients

3.1 Substances

not relevant (mixture)

3.2 Mixtures

Description of the mixture

Hazardous ingredients

Name of sub-stance	Identifier	Wt%	Classification acc. to GHS	Pictograms	Specific Conc. Limits	M-Factors
propane	CAS No 74-98-6 EC No 200-827-9 Index No 601-003-00-5	0 – < 100	Flam. Gas 1 / H220 Press. Gas C / H280			
butane	CAS No 106-97-8 EC No 203-448-7	0 – < 100	Flam. Gas 1 / H220 Press. Gas C / H280			
isobutane	CAS No 75-28-5 EC No 200-857-2 Index No 601-004-00-0	0 – < 100	Flam. Gas 1 / H220 Press. Gas L / H280			
but-1-ene	CAS No 106-98-9 EC No 203-449-2 Index No 601-012-00-4	0 – 5	Flam. Gas 1 / H220 Press. Gas C / H280			
butene, mixed-1-and-2-isomers	CAS No 107-01-7 EC No 203-452-9 Index No 601-012-00-4	0 – 5	Flam. Gas 1 / H220 Press. Gas C / H280			

Hazardous ingredients

Name of sub-stance	Identifier	Wt%	Classification acc. to GHS	Pictograms	Specific Conc. Limits	M-Factors
propene	CAS No 115-07-1 EC No 204-062-1 Index No 601-011-00-9	0 – 5	Flam. Gas 1 / H220 Press. Gas C / H280			

SECTION 4: First aid measures

4.1 Description of first aid measures

General notes

Self-protection of the first aider.
In all cases of doubt, or when symptoms persist, seek medical advice.

Following inhalation

Provide fresh air.
If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions.
Mouth to mouth resuscitation should be avoided. Use alternative methods, preferably with oxygen or compressed air driven apparatus.
In case of unconsciousness place person in the recovery position. Never give anything by mouth.

Following skin contact

Thaw frosted parts with lukewarm water. Do not rub affected area.
Get medical advice/attention.

Following eye contact

Rinse cautiously with water for several minutes.
Remove contact lenses, if present and easy to do. Continue rinsing.
Get medical advice/attention.

Following ingestion

No exposure expected.

Notes for the doctor

none

4.2 Most important symptoms and effects, both acute and delayed

Drowsiness.
Dizziness.

4.3 Indication of any immediate medical attention and special treatment needed

none

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

water spray, alcohol resistant foam, fire extinguishing powder

Unsuitable extinguishing media

water jet

5.2 Special hazards arising from the substance or mixture

Hazardous decomposition products: Section 10.
Contact with the product can cause burns and/or frostbite.
Contains gas under pressure; may explode if heated.
Danger of bursting container.
Vapours are heavier than air, spread along floors and form explosive mixtures with air.

Hazardous combustion products

carbon monoxide (CO), carbon dioxide (CO2)

5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes.
Co-ordinate firefighting measures to the fire surroundings.
Collect contaminated firefighting water separately.
Fight fire with normal precautions from a reasonable distance.

Special protective equipment for firefighters

use suitable breathing apparatus, wear self-contained breathing apparatus

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Remove persons to safety.
Ventilate affected area.

For emergency responders

Wear breathing apparatus if exposed to vapours/dust/spray/gases.
Self-contained breathing apparatus.

6.2 Environmental precautions

Do not empty into drains.

6.3 Methods and material for containment and cleaning up

Ventilate affected area.

6.4 Reference to other sections

Hazardous combustion products: see section 5.
Personal protective equipment: see section 8.
Incompatible materials: see section 10.
Disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Do not breathe vapour/spray.

Measures to prevent fire as well as aerosol and dust generation

Use local and general ventilation.
Keep away from sources of ignition - No smoking.

Specific notes/details

None.

Measures to protect the environment

Avoid release to the environment.
Due to danger of explosion, prevent leakage of vapours into cellars, flues and ditches.

Advice on general occupational hygiene

Do not eat, drink and smoke in work areas.

7.2 Conditions for safe storage, including any incompatibilities

Flammability hazards

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Take precautionary measures against static discharge.

Incompatible substances or mixtures

Incompatible materials: see section 10.

Protect against external exposure, such as

heat

Consideration of other advice

Keep away from food, drink and animal feedingstuffs.

Ventilation requirements

Provision of sufficient ventilation.

Packaging compatibilities

Only packagings which are approved (e.g. acc. to ADR) may be used.

7.3 Specific end use(s)

No information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limit values (Workplace Exposure Limits)

Country	Name of agent	CAS No	Identifier	TWA [ppm]	TWA [mg/m³]	STEL [ppm]	STEL [mg/m³]	Notation	Source
GB	butane	106-97-8	WEL	600	1,450	750	1,810		EH40/2005
GB	petroleum gases, liquefied	68476-85-7	WEL	1,000	1,750	1,250	2,180		EH40/2005

Notation

STEL	short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)
TWA	time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified)

8.2 Exposure controls

Appropriate engineering controls

General ventilation.

Individual protection measures (personal protective equipment)

Eye/face protection

Wear cold insulating gloves/face shield/eye protection.

Respiratory protection

In case of inadequate ventilation wear respiratory protection.
Self-contained breathing apparatus.

Environmental exposure controls

Use appropriate container to avoid environmental contamination.
Keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state	gaseous
Form	liquefied
Colour	colourless
Odour	recognizable
Odour threshold	these information are not available

Other safety parameters

pH (value)	not relevant
Melting point/freezing point	−187,7 / −159,4 / −138,3 °C (propane/isobutane/butane)
Initial boiling point and boiling range	-42,1 / -11,7 / -0,5 °C (propane/isobutane/butane)
Flash point	-100 °C
Evaporation rate	these information are not available
Flammability (solid, gas)	flammable gas in accordance with GHS criteria
Explosive limits	
Lower explosion limit (LEL)	1,7 / 1,3 / 1,4 vol% (propane/isobutane/butane)
Upper explosion limit (UEL)	10,9 / 9,8 / 9,3 vol% (propane/isobutane/butane)
Vapour pressure	830 / 302 / 208 kPa (20°C) (propane/isobutane/butane)
Density	liquid 0,58 / 0,5937 / 0,59 g/ml (propane/isobutane/butane)
Density	gaseous 2,01 / 2,70 / 2,71 g/l (0°C, 1013 hPa) (propane/isobutane/butane)
Solubility(ies)	
Water solubility	75 / 49 / 61 mg/l (20°C) (propane/isobutane/butane)
Partition coefficient	
n-octanol/water (log KOW)	these information are not available
Auto-ignition temperature	470 / 460 / 450 °C (propane/isobutane/butane)
Relative self-ignition temperature for solids	not relevant (Gaseous)
Decomposition temperature	these information are not available
Viscosity	
Kinematic viscosity	not relevant (gaseous)
Dynamic viscosity	not relevant (gaseous)

Explosive properties	not explosive vapours may form explosive mixtures with air
Oxidising properties	shall not be classified as oxidising

9.2 Other information

None

SECTION 10: Stability and reactivity

10.1 Reactivity

Gas under pressure.
Risk of ignition.

If heated:

danger of explosion, gas under pressure, danger of bursting container

10.2 Chemical stability

See below "Conditions to avoid".

10.3 Possibility of hazardous reactions

In case of insufficient ventilation and/or in use, may form flammable/explosive vapour-air mixture.

10.4 Conditions to avoid

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Contains gas under pressure; may explode if heated.

10.5 Incompatible materials

oxidisers

10.6 Hazardous decomposition products

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known.
Hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Classification procedure

If not otherwise specified the classification is based on:
Ingredients of the mixture (additivity formula).

Classification according to GHS (1272/2008/EC, CLP)

Acute toxicity

Classification could not be established because:
Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Skin corrosion/irritation

Classification could not be established because:
Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Serious eye damage/eye irritation

Classification could not be established because:
Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Skin sensitisation

Classification could not be established because:
Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Respiratory sensitisation

Classification could not be established because:
Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Germ cell mutagenicity

Classification could not be established because:
Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Carcinogenicity

Classification could not be established because:
Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Reproductive toxicity

Classification could not be established because:
Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Specific target organ toxicity - single exposure

Classification could not be established because:
Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Specific target organ toxicity - repeated exposure

Classification could not be established because:
Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

Other information

May displace oxygen and cause rapid suffocation.
Contains refrigerated gas; may cause cryogenic burns or injury.

SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity (acute)

Test data are not available for the complete mixture.

Aquatic toxicity (acute) of components of the mixture

Name of substance	CAS No	Endpoint	Value	Species	Exposure time
propane	74-98-6	LC50	24.11 $^{mg}/_{l}$	fish	96 h
propane	74-98-6	EC50	7.71 $^{mg}/_{l}$	algae	96 h
butane	106-97-8	LC50	24.11 $^{mg}/_{l}$	fish	96 h
butane	106-97-8	EC50	7.71 $^{mg}/_{l}$	algae	96 h
but-1-ene	106-98-9	LC50	19 $^{mg}/_{l}$	fish	96 h
but-1-ene	106-98-9	EC50	6.5 $^{mg}/_{l}$	algae	96 h
propene	115-07-1	LC50	51.7 $^{mg}/_{l}$	fish	96 h
propene	115-07-1	LC50	28.2 $^{mg}/_{l}$	daphnia	48 h
propene	115-07-1	EC50	12.1 $^{mg}/_{l}$	algae	96 h

Aquatic toxicity (chronic)

Test data are not available for the complete mixture.

Aquatic toxicity (chronic) of components of the mixture

Name of substance	CAS No	Endpoint	Value	Species	Exposure time
but-1-ene	106-98-9	NOEC	2.286 $^{mg}/_{l}$	fish	30 d

12.2 Persistence and degradability

Biodegradation

Data are not available.

Persistence

Data are not available.

12.3 Bioaccumulative potential

Test data are not available for the complete mixture.

Bioaccumulative potential of components of the mixture

Name of substance	CAS No	BCF	Log KOW
propane	74-98-6		1.09 – 2.8 (pH value: 7, 20 °C)
butane	106-97-8		1.09 (pH value: 7, 20 °C)
isobutane	75-28-5		2.8
but-1-ene	106-98-9		2.4
propene	115-07-1		1.77 (pH value: 7, 20 °C)

12.4 Mobility in soil

Data are not available.

12.5 Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

12.6 Other adverse effects

Data are not available.

Endocrine disrupting potential

None of the ingredients are listed.

Remarks

Wassergefährdungsklasse, WGK (water hazard class): nwg

SECTION 13: Disposal considerations

13.1 Waste treatment methods

No waste related measures required.

Sewage disposal-relevant information

Do not empty into drains.

Waste treatment of containers/packagings

Completely emptied packages can be recycled.

Remarks

Please consider the relevant national or regional provisions.

SECTION 14: Transport information

14.1 UN number	1965
14.2 UN proper shipping name	HYDROCARBON GAS MIXTURES, LIQUEFIED, N.O.S. (mixture C)
Technical name (hazardous ingredients)	PROPANE, BUTANE

14.3 Transport hazard class(es)

Class	2.1
Subsidiary risk(s)	2.1 (flammable)

14.4 Packing group

not assigned to a packing group

14.5 Environmental hazards

non-environmentally hazardous acc. to the dangerous goods regulations

14.6 Special precautions for user

Provisions for dangerous goods (ADR) should be complied within the premises.

14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code

The cargo is not intended to be carried in bulk.

14.8 Information for each of the UN Model Regulations

Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN).

UN number	1965
Proper shipping name	UN1965, HYDROCARBON GAS MIXTURES, LIQUEFIED, N.O.S. (mixture C), (contains: PROPANE, BUTANE), 2.1, (B/D)
Class	2
Classification code	2F
Danger label(s)	2.1

Special provisions (SP)	274, 583, 652(ADR), 660, 662
Excepted quantities (EQ)	E0
Limited quantities (LQ)	0
Transport category (TC)	2.
Tunnel restriction code (TRC)	B/D
Hazard identification No	23
Emergency Action Code	2YE

International Maritime Dangerous Goods Code (IMDG)

UN number	1965
Proper shipping name	UN1965, HYDROCARBON GAS MIXTURES, LIQUEFIED, N.O.S. (mixture C), 2.1, -100°C c.c.
Class	2.1
Marine pollutant	-
Danger label(s)	2.1

Excepted quantities (EQ)	E0
Limited quantities (LQ)	0
EmS	F-D, S-U
Stowage category	E

International Civil Aviation Organization (ICAO-IATA/DGR)

UN number	1965
Proper shipping name	UN1965, Hydrocarbon gas mixtures, liquefied, n.o.s. (mixture C), (contains: PROPANE, BUTANE), 2.1
Class	2.1
Danger label(s)	2.1

Special provisions (SP)	A1
Excepted quantities (EQ)	E0

SECTION 15: Regulatory information

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

Relevant provisions of the European Union (EU)

Restrictions according to REACH, Annex XVII

Name of substance	Name acc. to inventory	CAS No	Restriction
isobutane	this product meets the criteria for classification in accordance with Regulation No 1272/2008/EC		R3
isobutane	flammable / pyrophoric		R40

Name of substance	Name acc. to inventory	CAS No	Restriction
but-1-ene	this product meets the criteria for classification in accordance with Regulation No 1272/2008/EC		R3
but-1-ene	flammable / pyrophoric		R40
butene, mixed-1-and-2-isomers	this product meets the criteria for classification in accordance with Regulation No 1272/2008/EC		R3
butene, mixed-1-and-2-isomers	flammable / pyrophoric		R40
propene	this product meets the criteria for classification in accordance with Regulation No 1272/2008/EC		R3
propene	flammable / pyrophoric		R40
butane	this product meets the criteria for classification in accordance with Regulation No 1272/2008/EC		R3
butane	flammable / pyrophoric		R40
propane	this product meets the criteria for classification in accordance with Regulation No 1272/2008/EC		R3
propane	flammable / pyrophoric		R40

Legend

R3 1. Shall not be used in:
- ornamental articles intended to produce light or colour effects by means of different phases, for example in ornamental lamps and ashtrays,
- tricks and jokes,
- games for one or more participants, or any article intended to be used as such, even with ornamental aspects,
2. Articles not complying with paragraph 1 shall not be placed on the market.
3. Shall not be placed on the market if they contain a colouring agent, unless required for fiscal reasons, or perfume, or both, if they:
- can be used as fuel in decorative oil lamps for supply to the general public, and,
- present an aspiration hazard and are labelled with R65 or H304,
4. Decorative oil lamps for supply to the general public shall not be placed on the market unless they conform to the European Standard on Decorative oil lamps (EN 14059) adopted by the European Committee for Standardisation (CEN).
5. Without prejudice to the implementation of other Community provisions relating to the classification, packaging and labelling of dangerous substances and mixtures, suppliers shall ensure, before the placing on the market, that the following requirements are met:
(a) lamp oils, labelled with R65 or H304, intended for supply to the general public are visibly, legibly and indelibly marked as follows: 'Keep lamps filled with this liquid out of the reach of children'; and, by 1 December 2010, 'Just a sip of lamp oil - or even sucking the wick of lamps - may lead to life-threatening lung damage';
(b) grill lighter fluids, labelled with R65 or H304, intended for supply to the general public are legibly and indelibly marked by 1 December 2010 as follows: 'Just a sip of grill lighter may lead to life threatening lung damage';
(c) lamp oils and grill lighters, labelled with R65 or H304, intended for supply to the general public are packaged in black opaque containers not exceeding 1 litre by 1 December 2010.
6. No later than 1 June 2014, the Commission shall request the European Chemicals Agency to prepare a dossier, in accordance with Article 69 of the present Regulation with a view to ban, if appropriate, grill lighter fluids and fuel for decorative lamps, labelled R65 or H304, intended for supply to the general public.
7. Natural or legal persons placing on the market for the first time lamp oils and grill lighter fluids, labelled with

Legend

R65 or H304, shall by 1 December 2011, and annually thereafter, provide data on alternatives to lamp oils and grill lighter fluids labelled R65 or H304 to the competent authority in the Member State concerned. Member States shall make those data available to the Commission.

R40 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 (2).

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.

List of substances subject to authorisation (REACH, Annex XIV) / SVHC - candidate list

none of the ingredients are listed

Seveso Directive

2012/18/EU (Seveso III)				
No	**Dangerous substance/hazard categories**	**Qualifying quantity (tonnes) for the application of lower and upper-tier requirements**		**Notes**
18	petroleum gases, liquefied	50	200	61)

Notation

61) liquefied flammable gases, category 1 or 2 (including LPG) and natural gas

Directive 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS) - Annex II

none of the ingredients are listed

Regulation 166/2006/EC concerning the establishment of a European Pollutant Release and Transfer Register (PRTR)

none of the ingredients are listed

Directive 2000/60/EC establishing a framework for Community action in the field of water policy (WFD)

none of the ingredients are listed

Regulation 98/2013/EU on the marketing and use of explosives precursors

none of the ingredients are listed

15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this mixture by the supplier.
Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

Indication of changes (revised safety data sheet)

Indication of changes: Section 2, 3, 11, 12, 15

Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)
ADR	Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
BCF	Bioconcentration factor
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
DGR	Dangerous Goods Regulations (see IATA/DGR)
EC No	The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union)
EH40/2005	EH40/2005 Workplace exposure limits (http://www.nationalarchives.gov.uk/doc/open-government-licence/)
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
EmS	Emergency Schedule
Flam. Gas	Flammable gas
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods Code
index No	The Index number is the identification code given to the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008
log KOW	n-Octanol/water

Abbr.	Descriptions of used abbreviations
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
NLP	No-Longer Polymer
PBT	Persistent, Bioaccumulative and Toxic
ppm	Parts per million
Press. Gas	Gas under pressure
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
STEL	Short-term exposure limit
SVHC	Substance of Very High Concern
TWA	Time-weighted average
vPvB	Very Persistent and very Bioaccumulative
WEL	Workplace exposure limit

Key literature references and sources for data

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures.
Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU.

Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN).
International Maritime Dangerous Goods Code (IMDG).
Dangerous Goods Regulations (DGR) for the air transport (IATA).

Classification procedure

Physical and chemical properties.
Health hazards.
Environmental hazards.
The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

List of relevant phrases (code and full text as stated in chapter 2 and 3)

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

Responsible for the safety data sheet

C.S.B. GmbH
Düsseldorfer Str. 113
47809 Krefeld, Germany

Telephone: +49 (0) 2151 - 652086 - 0
Telefax: +49 (0) 2151 - 652086 - 9
e-Mail: info@csb-online.de
Website: www.csb-online.de

Disclaimer

This information is based upon the present state of our knowledge.
This SDS has been compiled and is solely intended for this product.