

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

1.1. Product identifier

Product form : Mixture
Trade name : Forsafoam 1C
Type of product : Aerosol
Vaporizer : Aerosol

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

1.2.1. Relevant identified uses

Main use category : Professional use

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

DL CHEMICALS
Roterijstraat 201-203
B-8793 Waregem - Belgium
T + 32 56 62 70 51 - F + 32 56 60 95 68
info@dl-chem.com - www.dl-chem.com

1.4. Emergency telephone number

Emergency number : + 32 70 245 245

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Aerosol 1	H222;H229
Skin Irrit. 2	H315
Eye Irrit. 2	H319
Resp. Sens. 1	H334
Skin Sens. 1	H317
Carc. 2	H351
Lact.	H362
STOT SE 3	H335
STOT RE 2	H373
Aquatic Chronic 4	H413

Full text of H-phrases: see section 16

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

F+; R12

Xi; R36/37/38

Carc.Cat.3; R40

R42

R43

Xn; R48/20

R53

R64

Full text of R-phrases: see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

Forsafoam 1C

Safety Data Sheet

according to Regulation (EC) No. 453/2010

2.2. Label elements

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

Hazard pictograms (CLP) :



GHS02



GHS07



GHS08

CLP Signal word :

Danger

Hazardous ingredients :

alkanes, C14-17, chloro, chlorinated paraffins, C14-17, Diphenylmethanediisocyanate, isomers and homologues

Hazard statements (CLP) :

H222 - Extremely flammable aerosol
H229 - Pressurised container: May burst if heated
H315 - Causes skin irritation
H317 - May cause an allergic skin reaction
H319 - Causes serious eye irritation
H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled
H335 - May cause respiratory irritation
H351 - Suspected of causing cancer
H362 - May cause harm to breast-fed children
H373 - May cause damage to organs through prolonged or repeated exposure (if inhaled)
H413 - May cause long lasting harmful effects to aquatic life

Precautionary statements (CLP) :

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
P211 - Do not spray on an open flame or other ignition source
P251 - Do not pierce or burn, even after use
P410+P412 - Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F
P260 - Do not breathe vapours
P280 - Wear protective gloves, eye protection, face protection
P271 - Use only outdoors or in a well-ventilated area
P284 - Wear respiratory protection
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P308+P311 - IF exposed or concerned: Call a POISON CENTER, a doctor
P405 - Store locked up
P501 - Dispose of contents/container to a hazardous or special waste collection point
P102 - Keep out of reach of children

EUH phrases :

EUH204 - Contains isocyanates. May produce an allergic reaction

Extra phrases :

Persons suffering from asthma, eczema or skin problems should avoid contact, including dermal contact, with this product
This product should not be used under conditions of poor ventilation unless a protective mask with an appropriate gas filter (i.e. type A1 according to standard EN 14387) is used
Persons already sensitised to diisocyanates may develop allergic reactions when using this product

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

Other hazards not contributing to the classification

: Pressurized container. On heating there is a risk of bursting due to internal pressure build-up.

Forsafoam 1C

Safety Data Sheet

according to Regulation (EC) No. 453/2010

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

Name	Product identifier	%	Classification according to Directive 67/548/EEC
propane	(CAS No) 74-98-6 (EC no) 200-827-9 (EC index no) 601-003-00-5	1 - 20	F+; R12
isobutane	(CAS No) 75-28-5 (EC no) 200-857-2 (EC index no) 601-004-00-0	1 - 20	F+; R12
dimethyl ether substance with a Community workplace exposure limit	(CAS No) 115-10-6 (EC no) 204-065-8 (EC index no) 603-019-00-8	1 - 20	F+; R12
alkanes, C14-17, chloro, chlorinated paraffins, C14-17	(CAS No) 85535-85-9 (EC no) 287-477-0 (EC index no) 602-095-00-X	2,5 - 15	R64 R66 N; R50/53
Diphenylmethanediisocyanate, isomers and homologues	(CAS No) 32055-14-4 (EC no) 500-079-6 (REACH-no) 01-2119457024-46	10 - 15	Xn; R20 R42 R43 Xi; R36/37/38 Carc.Cat.3; R40 Xn; R48/20

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
propane	(CAS No) 74-98-6 (EC no) 200-827-9 (EC index no) 601-003-00-5	1 - 20	Flam. Gas 1, H220 Press. Gas
isobutane	(CAS No) 75-28-5 (EC no) 200-857-2 (EC index no) 601-004-00-0	1 - 20	Flam. Gas 1, H220
dimethyl ether substance with a Community workplace exposure limit	(CAS No) 115-10-6 (EC no) 204-065-8 (EC index no) 603-019-00-8	1 - 20	Flam. Gas 1, H220 Press. Gas
alkanes, C14-17, chloro, chlorinated paraffins, C14-17	(CAS No) 85535-85-9 (EC no) 287-477-0 (EC index no) 602-095-00-X	2,5 - 15	Lact., H362 Aquatic Acute 1, H400 (M=100) Aquatic Chronic 1, H410
Diphenylmethanediisocyanate, isomers and homologues	(CAS No) 32055-14-4 (EC no) 500-079-6 (REACH-no) 01-2119457024-46	10 - 15	Acute Tox. 4 (Inhalation), H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Resp. Sens. 1, H334 Skin Sens. 1, H317 Carc. 2, H351 STOT SE 3, H335 STOT RE 2, H373

Full text of R- and H-phrases: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

- First-aid measures after inhalation : If you feel unwell, seek medical advice. In case of accident by inhalation: remove casualty to fresh air and keep at rest.
- First-aid measures after skin contact : Wash with plenty of soap and water. If skin irritation persists, take medical advice.
- First-aid measures after eye contact : In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- First-aid measures after ingestion : Seek medical attention immediately.

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

- Symptoms/injuries : Exposure may produce an allergic reaction.

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

Treat symptomatically.

Forsafoam 1C

Safety Data Sheet

according to Regulation (EC) No. 453/2010

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Carbon dioxide. Water spray. Dry powder. Foam.
Unsuitable extinguishing media : Strong water jet.

5.2. Special hazards arising from the substance or mixture

Explosion hazard : Heat may build pressure, rupturing closed containers, spreading fire and increasing risk of burns and injuries.
Hazardous decomposition products in case of fire : Nitrogen oxides. Hydrogen cyanide. Acid chlorides.

5.3. Advice for firefighters

Precautionary measures fire : Do not breathe fumes from fires or vapours from decomposition.
Firefighting instructions : Cool down the containers exposed to heat with a water spray.
Protection during firefighting : Wear a self contained breathing apparatus.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Keep away from sources of ignition - No smoking. Ensure adequate air ventilation.

6.1.1. For non-emergency personnel

No additional information available

6.1.2. For emergency responders

No additional information available

6.2. Environmental precautions

Do not allow into drains or water courses.

6.3. Methods and material for containment and cleaning up

For containment : Take up mechanically (sweeping, shovelling) and collect in suitable container for disposal.
Methods for cleaning up : Take up liquid spill into absorbent material, e.g.: sand, earth, vermiculite.
Other information : Dispose in a safe manner in accordance with local/national regulations.

6.4. Reference to other sections

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

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed : Use only in well-ventilated areas.
Precautions for safe handling : Keep away from sources of ignition - No smoking. Vapours may form flammable and explosive mixture with air.

7.2. Conditions for safe storage, including any incompatibilities

Prohibitions on mixed storage : Store away from oxidation agents.
Storage area : Heating will cause a rise in pressure with a risk of bursting. Do not expose to heat. Ensure that there is a suitable ventilation system.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Diphenylmethanediisocyanate, isomers and homologues (32055-14-4)		
United Kingdom	WEL TWA (mg/m ³)	0,02 mg/m ³
United Kingdom	WEL STEL (mg/m ³)	0,07 mg/m ³

Forsafoam 1C

Safety Data Sheet

according to Regulation (EC) No. 453/2010

dimethyl ether (115-10-6)

EU	IOELV TWA (mg/m ³)	1920 mg/m ³
EU	IOELV TWA (ppm)	1000 ppm
United Kingdom	WEL TWA (mg/m ³)	400 mg/m ³
United Kingdom	WEL TWA (ppm)	766 ppm
United Kingdom	WEL STEL (mg/m ³)	958 mg/m ³
United Kingdom	WEL STEL (ppm)	500 ppm

8.2. Exposure controls

Personal protective equipment : Gloves. Safety glasses.



Materials for protective clothing : Protective clothing.

Eye protection : Safety glasses.

Skin and body protection : Light protective clothing.

Respiratory protection : Breathing apparatus with filter.

Other information : Avoid contact with skin and eyes. Do not eat, drink or smoke during use.
Remove/Take off immediately all contaminated clothing. Do not breathe vapours.
Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Aerosol.
Colour	: Yellow.
Odour	: characteristic.
Odour threshold	: No data available
pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: Yes
Vapour pressure	: Not applicable
Critical pressure	: Not applicable
Relative vapour density at 20 °C	: Not applicable
Relative density	: Not applicable
Solubility	: Water: Reacts with water
Log Pow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available

9.2. Other information

VOC content : 18 - 25 %

Forsafoam 1C

Safety Data Sheet

according to Regulation (EC) No. 453/2010

SECTION 10: Stability and reactivity

10.1. Reactivity

No dangerous reactions known under normal conditions of use.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

Contains gas under pressure; may explode if heated.

10.4. Conditions to avoid

Can form explosive mixture with air. Reacts with (some) bases: pressure build-up may cause closed container to burst.

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

No hazardous decomposition products known at room temperature.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

isobutane (75-28-5)	
LC50 inhalation rat (ppm)	570000 ppm IUCLID
Diphenylmethanediisocyanate, isomers and homologues (32055-14-4)	
LD50 oral rat	10000 mg/kg (OECD 401 method)
LD50 dermal rabbit	9400 mg/kg (OECD 402 method)
LC50 inhalation rat (mg/l)	310 mg/m ³ (OECD 403 method)
alkanes, C14-17, chloro, chlorinated paraffins, C14-17 (85535-85-9)	
LD50 oral rat	4000 mg/kg (IUCLID)
LD50 dermal rat	4000 mg/kg
LC50 inhalation rat (mg/l)	1h 48170
dimethyl ether (115-10-6)	
LC50 inhalation rat (mg/l)	308,5 mg/l
propane (74-98-6)	
LC50 inhalation rat (mg/l)	658 mg/l

Skin corrosion/irritation : Causes skin irritation.

Serious eye damage/irritation : Causes serious eye irritation.

Respiratory or skin sensitisation : May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.

Germ cell mutagenicity : Not classified

Carcinogenicity : Suspected of causing cancer.

Reproductive toxicity : May cause harm to breast-fed children.

Specific target organ toxicity (single exposure) : May cause respiratory irritation.

Specific target organ toxicity (repeated exposure) : May cause damage to organs through prolonged or repeated exposure (if inhaled).

Diphenylmethanediisocyanate, isomers and homologues (32055-14-4)	
LOAEL (inhalation, rat, vapour, 90 days)	1 mg/l/6h/day
NOAEL (inhalation, rat, vapour, 90 days)	0,2 mg/l/6h/day
Aspiration hazard	: Not classified

Forsafoam 1C	
Vaporizer	Aerosol

Forsafoam 1C

Safety Data Sheet

according to Regulation (EC) No. 453/2010

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Dispose as hazardous waste.

Diphenylmethanediisocyanate, isomers and homologues (32055-14-4)	
LC50 fishes 1	1000 mg/l Brachydanio rerio (zebra-fish) (OECD 203 method)
EC50 Daphnia 1	1000 mg/l (OECD 202 method)
EC50 other aquatic organisms 1	1640 mg/l scenedesmus subspicatus (OECD 201 method)
NOEC (chronic)	10 mg/l daphnia (OECD 202 method)
alkanes, C14-17, chloro, chlorinated paraffins, C14-17 (85535-85-9)	
LC50 fishes 1	96 h 5000 mg/l Alburnus alburnus (alburnum)
EC50 Daphnia 1	48 h 5,9 µg/l Daphnia magna (Big water flea) M = 100
ErC50 (algae)	96h 3,2 mg/l
NOEC chronic fish	14d > 125 Alburnus alburnus (alburnum)
dimethyl ether (115-10-6)	
NOEC (acute)	48 h 4000 mg/l Daphnia Magna
NOEC (chronic)	96 h 4000 mg/l Poecilia reticulata

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

isobutane (75-28-5)	
Bioconcentration factor (BCF REACH)	27
Log Pow	2,76
Bioaccumulative potential	Low bioaccumulation potential.
propane (74-98-6)	
Bioconcentration factor (BCF REACH)	13
Log Pow	2,86
Bioaccumulative potential	Low bioaccumulation potential.

12.4. Mobility in soil

isobutane (75-28-5)	
Log Koc	35
Ecology - soil	Very mobile.
propane (74-98-6)	
Log Koc	460
Ecology - soil	medium.

12.5. Results of PBT and vPvB assessment

Forsafoam 1C	
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	

12.6. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Regional legislation (waste)	: Disposal must be done according to official regulations.
Waste treatment methods	: Empty containers should be taken for recycling, recovery or waste in accordance with local regulation.
Waste disposal recommendations	: Dispose of this material and its container to hazardous or special waste collection point.
European List of Waste (LoW) code	: 16 05 04* - gases in pressure containers (including halons) containing dangerous substances 08 05 01* - waste isocyanates 15 01 10* - packaging containing residues of or contaminated by dangerous substances





Forsafoam 1C

Safety Data Sheet

according to Regulation (EC) No. 453/2010

SECTION 14: Transport information

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

ADR	IMDG	IATA	RID
14.1. UN number			
1950	1950	1950	1950
14.2. UN proper shipping name			
AEROSOLS	AEROSOLS	Aerosols, flammable	AEROSOLS
14.3. Transport hazard class(es)			
2.1	2.1	2.1	2.1
			
14.4. Packing group			
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

14.6. Special precautions for user

14.6.1. Overland transport

Classification code (ADR) : 5F
Special provisions (ADR) : 190, 327, 344, 625
Limited quantities (ADR) : 1L
Excepted quantities (ADR) : E0
Packing instructions (ADR) : P207, LP02
Special packing provisions (ADR) : PP87, RR6, L2
Mixed packing provisions (ADR) : MP9
Transport category (ADR) : 2
Special provisions for carriage - Packages (ADR) : V14
Special provisions for carriage - Loading, unloading and handling (ADR) : CV9, CV12
Special provisions for carriage - Operation (ADR) : S2
Tunnel restriction code (ADR) : D

14.6.2. Transport by sea

Special provisions (IMDG) : 63, 190, 277, 327, 344, 959
Limited quantities (IMDG) : SP277
Limited quantities (IMDG) : LQ: 1 I
Excepted quantities (IMDG) : E0
Packing instructions (IMDG) : P207, LP02
Special packing provisions (IMDG) : PP87, L2
EmS-No. (1) : F-D
EmS-No. (2) : S-U
Stowage category (IMDG) : None

14.6.3. Air transport

PCA Excepted quantities (IATA) : E0
PCA Limited quantities (IATA) : Y203
PCA limited quantity max net quantity (IATA) : 30kgG
PCA packing instructions (IATA) : 203
PCA max net quantity (IATA) : 75kg
CAO packing instructions (IATA) : 203

Forsafoam 1C

Safety Data Sheet

according to Regulation (EC) No. 453/2010

CAO max net quantity (IATA) : 150kg
Special provisions (IATA) : A145, A167
ERG code (IATA) : 10L

14.6.4. Inland waterway transport

Not applicable

14.6.5. Rail transport

Special provisions (RID) : 190, 327, 344, 625
Limited quantities (RID) : 1L
Excepted quantities (RID) : E0
Packing instructions (RID) : P207, LP02
Special packing provisions (RID) : PP87, RR6, L2
Mixed packing provisions (RID) : MP9
Transport category (RID) : 2
Special provisions for carriage – Packages (RID) : W14
Special provisions for carriage - Loading, unloading and handling (RID) : CW9, CW12
Colis express (express parcels) (RID) : CE2
Hazard identification number (RID) : 23
Carriage prohibited (RID) : No

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

Contains no substances with Annex XVII restrictions
Forsafoam 1C is not on the REACH Candidate List
Contains no substance on the REACH candidate list
Contains no REACH Annex XIV substances
VOC content : 18 - 25 %

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

Not applicable

SECTION 16: Other information

Full text of R-, H- and EUH-phrases:

Acute Tox. 4 (Inhalation)	Acute toxicity (inhal.), Category 4
Aerosol 1	Aerosol, Category 1
Aquatic Acute 1	Hazardous to the aquatic environment — Acute Hazard, Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment — Chronic Hazard, Category 1
Aquatic Chronic 4	Hazardous to the aquatic environment — Chronic Hazard, Category 4
Carc. 2	Carcinogenicity, Category 2
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Flam. Gas 1	Flammable gases, Category 1
Lact.	Reproductive toxicity, Additional category, Effects on or via lactation
Press. Gas	Gases under pressure
Resp. Sens. 1	Sensitisation — Respiratory, category 1
Skin Irrit. 2	Skin corrosion/irritation, Category 2
Skin Sens. 1	Sensitisation — Skin, category 1
STOT RE 2	Specific target organ toxicity — Repeated exposure, Category 2

Forsafoam 1C

Safety Data Sheet

according to Regulation (EC) No. 453/2010

STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation
H220	Extremely flammable gas
H222	Extremely flammable aerosol
H229	Pressurised container: May burst if heated
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H319	Causes serious eye irritation
H332	Harmful if inhaled
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled
H335	May cause respiratory irritation
H351	Suspected of causing cancer
H362	May cause harm to breast-fed children
H373	May cause damage to organs through prolonged or repeated exposure
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects
H413	May cause long lasting harmful effects to aquatic life
R12	Extremely flammable
R20	Harmful by inhalation
R36/37/38	Irritating to eyes, respiratory system and skin
R40	Limited evidence of a carcinogenic effect
R42	May cause sensitization by inhalation
R43	May cause sensitisation by skin contact
R48/20	Harmful: danger of serious damage to health by prolonged exposure through inhalation
R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
R53	May cause long-term adverse effects in the aquatic environment
R64	May cause harm to breastfed babies
R66	Repeated exposure may cause skin dryness or cracking
F +	Extremely flammable
N	Dangerous for the environment
Xi	Irritant
Xn	Harmful

MSDS Reach Annex II DL-Chem

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