R-717 (ANHYDROUS AMMONIA NH3)

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878
Reference number: 100140100
Revision date: 9/20/2022 Supersedes version of: 7/21/2021 Version: 12.1

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

1.1. Product identifier

Product form	:	Substance
Name	:	R-717 (ANHYDROUS AMMONIA NH3)
Chemical name	:	AMMONIA, ANHYDROUS
EC Index-No.	:	007-001-00-5
EC-No.	:	231-635-3
CAS-No.	:	7664-41-7
REACH registration No	:	01-2119488876-14
Product code	:	100140100

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 : Refrigerant
Full text of use descriptors: see section 16

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Supplier
Dehon Service SAS
26 Avenue du Petit Parc
94683 VINCENNES Cedex
France
T 01 43 98 75 00 - F 01 43 98 21 51
ContactFDS@climalife.dehon.com

Other
Climalife Hongrie Kft
Villányi út 47
1118 Budaörs
Hungary
T (36) 23 431 660 - F (36) 23 431 661
ContactFDS@climalife.dehon.com

Other
Climalife Kft Budepesta sucurcala Bucuresti Romania
Bulevardul Hristo Botev, Nr. 28, Biroul NR 4, Modulul I
Bucuresti Sectorul 3
Romania
ContactFDS@climalife.dehon.com

Other
Climalife Supplied by Inventec Performance Chemicals Italia SRL
Via del Lavoro, 10/G
20874 Busnago MB
Italia
T +39 39-5973480 - F +39 39-5973490
ContactFDS@climalife.dehon.com

Other
Dehon Kälte-Fachvertriebs GmbH
Robert-Bosch-Strasse 14
40668 MEERBUSCH
Germany
T 00 49 2150 7073 0 - F 00 49 2150 7073 17
ContactFDS@climalife.dehon.com

Other
Dehon nordic service
Östra Hamngatan 50B 3tr
41109 GÖTEBORG
Sweden
T 00 46 735 01 90 50
ContactFDS@climalife.dehon.com

Other
Dehon Service Belgium s.a/n.v.
Avenue Carton de Wiart, 79
1090 Bruxelles
Belgium
T 00 32 2 421 01 70 - F 00 32 2 426 96 62
ContactFDS@climalife.dehon.com

Other
Dehon Service Nerderland B.V.
Van Konijnenburgweg 84
NL-4612 PL Bergen Op Zoom
Netherlands
T 00 31 164 212 830 - F 00 31 164 212 831
ContactFDS@climalife.dehon.com

Other
Friogas sa
Poligono Industrial SEPES Parcela 10
46500 SAGUNTO (Valencia)
Spain
T 00 34 9 6 266 36 32 - F 00 34 9 6 266 50 25
ContactFDS@climalife.dehon.com

Other
Galco s.a/n.v.
Avenue Carton de Wiart, 79
1090 BRUSSELS
Belgium
T 00 32 2 421 01 84 - F 00 32 2 421 01 84 / 00 32 2 425 38 12
ContactFDS@climalife.dehon.com

Other

Prochimac SA
ZI Petits Champs 15
CH-1400 Yverdon-les-Bains
Switzerland
T 00 41 32 727 36 00 - F 00 41 32 727 36 19
ContactFDS@climalife.dehon.com

IDS Refrigeration Limited
22 Apex Court, Woodlands, Bradley Stoke
BS32 4JT Bristol
United Kingdom
T 00 44 1179 802520 - F 00 44 1179 802521
ContactFDS@climalife.dehon.com

1.4. Emergency telephone number

Emergency number : +33 (0) 1 72 11 00 03

Country	Organisation/Company	Address	Emergency number	Comment
United Kingdom	National Poisons Information Service (Birmingham Centre) City Hospital	Dudley Road B18 7QH Birmingham	0344 892 0111	Only for healthcare professionals

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Flam. Gas 2	H221
Press. Gas (Liq.)	H280
Acute Tox. 3 (Inhalation:gas)	H331
Skin Corr. 1B	H314
Aquatic Acute 1	H400

Full text of hazard classes, H- and EUH-statements: see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

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

Hazard pictograms (CLP) :

GHS05 GHS06 GHS09

Signal word (CLP) : Danger

Hazard statements (CLP) : H221 - Flammable gas.
H280 - Contains gas under pressure; may explode if heated.
H314 - Causes severe skin burns and eye damage.
H331 - Toxic if inhaled.
H400 - Very toxic to aquatic life.

Precautionary statements (CLP) : P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P273 - Avoid release to the environment.
P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P303+P361+P353+P310 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Immediately call a POISON CENTER, a doctor.
P305+P351+P338+P310 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER, a doctor.
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.

2.3. Other hazards

Other hazards which do not result in classification : Flammable or explosive vapour/air mixtures may be formed. Contact with the liquefied gas may cause frostbite. Contains gas under pressure; may explode if heated.

Contains no PBT/vPvB substances ≥ 0.1% assessed in accordance with REACH Annex XIII

SECTION 3: Composition/information on ingredients

3.1. Substances

Name : R-717 (ANHYDROUS AMMONIA NH3)
CAS-No. : 7664-41-7
EC-No. : 231-635-3
EC Index-No. : 007-001-00-5

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
ammonia, anhydrous	CAS-No.: 7664-41-7 EC-No.: 231-635-3 EC Index-No.: 007-001-00-5 REACH-no: 01-2119488876-14	100	Flam. Gas 2, H221 Press. Gas Acute Tox. 3 (Inhalation), H331 Skin Corr. 1B, H314 Aquatic Acute 1, H400

Full text of H- and EUH-statements: see section 16

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Do not enter without an appropriate protective equipment. Self-contained breathing apparatus. Protective clothing.
First-aid measures after inhalation : Move the affected person away from the contaminated area and into the fresh air. Allow the victim to rest.
First-aid measures after skin contact : Immediately rinse with plenty of water (for at least 15 minutes). If skin burns appear, call a doctor immediately.
First-aid measures after eye contact : Rinse immediately and thoroughly, pulling the eyelids well away from the eye (15 minutes minimum). Consult an eye specialist immediately.
First-aid measures after ingestion : Not specifically applicable (gas).

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

Symptoms/effects after inhalation : Dry/sore throat. Irritation of the respiratory tract. Irritation of the nasal mucous membranes. Dizziness, headaches, nausea. Pulmonary oedema.
Symptoms/effects after skin contact : Burns.
Symptoms/effects after eye contact : Serious damage to eyes. Lacrimation.
Symptoms/effects after ingestion : None under normal conditions.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

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

5.2. Special hazards arising from the substance or mixture

Fire hazard	:	Contains gas under pressure; may explode if heated. Contact with combustible material may cause fire.
Explosion hazard	:	Gas/air mixtures are explosive.
Hazardous decomposition products in case of fire	:	During combustion : Toxic and corrosive gases are released, toxic and corrosive vapours, Hydrogen, Carbon oxides (CO, CO2).

5.3. Advice for firefighters

Firefighting instructions	:	Cool down the containers exposed to heat with a water spray. Never introduce water or any aqueous agent into tanks or containers. Contain the extinguishing fluids by bunding (the product is hazardous for the environment).
Protection during firefighting	:	Self-contained breathing apparatus. Impermeable boots and protective equipment.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Avoid contact with skin and eyes.

6.1.1. For non-emergency personnel

Emergency procedures : Evacuate the danger area. Evacuate unnecessary personnel. Evacuate area. Do not breathe vapours. Do not breathe gas.

6.1.2. For emergency responders

Protective equipment	:	Breathing apparatus. Eliminate all ignition sources if safe to do so.
Emergency procedures	:	Remove all sources of ignition.

6.2. Environmental precautions

Prevent the product from entering drains (risk of explosion). Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment	:	Spray with water. Neutralize with : acidic solution. Absorb with : dry sand, inert absorbent material.
Methods for cleaning up	:	Dispose of contaminated materials in accordance with current regulations. Wash contaminated area with large amounts of water.

6.4. Reference to other sections

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

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling	:	Avoid breathing spray, mist, fume, gas, dust, vapours. Work in a well-ventilated area. Material and equipment suitable for use under explosive conditions. Avoid any direct contact with the product. Avoid the build-up of electrostatic charge. Keep away from sources of ignition - No smoking.
Hygiene measures	:	Do not drink, eat or smoke in the workplace. Always wash hands after handling the product. Separate working clothes from town clothes. Launder separately.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures	:	Anti-corrosion electrical installations.
Storage conditions	:	Store : away from direct sunlight, away from any source of heat, away from any source of ignition. Store in dry, cool, well-ventilated area.
Incompatible materials	:	Oxidizing materials. Halogens. Acids. Metals.
Special rules on packaging	:	In the presence of humidity corrodes copper, zinc and numerous alloys.
Packaging materials	:	Packaging material: Steel, Galvanized iron, Carbon steel, Stainless steel. Unsuitable materials: Aluminium, copper, Tin, Zinc.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

R-717 (ANHYDROUS AMMONIA NH3) (7664-41-7)	
EU - Indicative Occupational Exposure Limit (IOEL)	
Local name	Ammonia, anhydrous
IOEL TWA	14 mg/m³
IOEL TWA [ppm]	20 ppm
IOEL STEL	36 mg/m³
IOEL STEL [ppm]	50 ppm
United Kingdom - Occupational Exposure Limits	
Local name	Ammonia, anhydrous
WEL TWA (OEL TWA) [1]	18 mg/m³
WEL TWA (OEL TWA) [2]	25 ppm
WEL STEL (OEL STEL)	25 mg/m³
WEL STEL (OEL STEL) [ppm]	35 ppm

8.1.2. Recommended monitoring procedures

No additional information available

8.1.3. Air contaminants formed

No additional information available

8.1.4. DNEL and PNEC

R-717 (ANHYDROUS AMMONIA NH3) (7664-41-7)	
DNEL/DMEL (Workers)	
Acute - systemic effects, dermal	6.8 mg/kg bodyweight/day
Acute - systemic effects, inhalation	47.6 mg/m³
Acute - local effects, inhalation	36 mg/m³
Long-term - systemic effects, dermal	6.8 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	47.6 mg/m³
Long-term - local effects, inhalation	14 mg/m³
DNEL/DMEL (General population)	
Acute - systemic effects, dermal	68 mg/kg bodyweight
Acute - systemic effects, inhalation	23.8 mg/m³
Acute - systemic effects, oral	6.8 mg/kg bodyweight
Acute - local effects, inhalation	7.2 mg/m³
Long-term - systemic effects,oral	6.8 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	23.8 mg/m³
Long-term - systemic effects, dermal	68 mg/kg bodyweight/day

R-717 (ANHYDROUS AMMONIA NH3) (7664-41-7)	
Long-term - local effects, inhalation	2.8 mg/m³
PNEC (Water)	
PNEC aqua (freshwater)	0.0011 mg/l
PNEC aqua (marine water)	0.0011 mg/l
PNEC aqua (intermittent, freshwater)	0.0068 mg/l
PNEC aqua (intermittent, marine water)	0.0068 mg/l

8.1.5. Control banding

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

No additional information available

8.2.2. Personal protection equipment

8.2.2.1. Eye and face protection

Eye protection:
Face shield. Safety glasses with side shields

8.2.2.2. Skin protection

Skin and body protection:
Use chemically protective clothing. EN 943-1. Safety foot-wear. EN ISO 20345

Hand protection:
Chemical resistant gloves (according to European standard NF EN 374 or equivalent). EN 388. EN 511. Butyl-rubber protective gloves. Protective gloves made of Viton

8.2.2.3. Respiratory protection

Respiratory protection:
Mask with {0} canister AXBEK (EN 14387)

8.2.2.4. Thermal hazards

No additional information available

8.2.3. Environmental exposure controls

Other information:
Safety shower. Eye fountain.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Gas
Colour	:	Colourless.
Appearance	:	Liquefied gas.
Odour	:	Pungent.
Odour threshold	:	0.04 – 53 ppm
Melting point	:	Not applicable
Freezing point	:	-77.7 °C
Boiling point	:	-33.4 °C
Flammability	:	Flammable gas.
Explosive properties	:	Not explosive material according to EC criteria.
Oxidising properties	:	Non oxidizing material according to EC criteria.
Explosive limits	:	Not available
Lower explosion limit	:	15.5 vol % Lower explosive limit (LEL)
Upper explosion limit	:	27 vol % Upper explosive limit (UEL)

Flash point	:	Not applicable
Auto-ignition temperature	:	651 °C
Decomposition temperature	:	> 651 °C
pH	:	Not applicable
Viscosity, kinematic	:	Not applicable
Viscosity, dynamic	:	Not applicable
Solubility	:	Material highly soluble in water.
Partition coefficient n-octanol/water (Log Kow)	:	< 4
Partition coefficient n-octanol/water (Log Pow)	:	0.23
Vapour pressure	:	870 kPa at 20 °C
Vapour pressure at 50 °C	:	Not available
Critical pressure	:	114.4 bar
Density	:	638 kg/m³ liquid products
Relative density	:	Not applicable
Relative vapour density at 20 °C	:	0.597
Particle characteristics	:	Not applicable

9.2. Other information

9.2.1. Information with regard to physical hazard classes

Critical temperature	:	132.8 °C

9.2.2. Other safety characteristics

Relative evaporation rate (butylacetate=1)	:	No data
VOC content	:	Not applicable.

SECTION 10: Stability and reactivity

10.1. Reactivity

Exothermic reaction with water.

10.2. Chemical stability

Stable at ambient temperature and under normal conditions of use.

10.3. Possibility of hazardous reactions

In use, may form flammable vapour-air mixture. Danger of explosion on contact with : Alcohol, Halogens (F, Cl, Br, I), Acetic aldehyde, Hypochlorous acid. May react violently with oxidants.

10.4. Conditions to avoid

Contains gas under pressure; may explode if heated.

10.5. Incompatible materials

Acids. Certain plastics, rubbers and coatings. gold, silver, mercury. In the presence of water, it attacks: Copper and its alloys, zinc.

10.6. Hazardous decomposition products

On combustion or on thermal decomposition (pyrolysis) releases : Hydrogen, Nitrogen oxides.

SECTION 11: Toxicological information

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

Acute toxicity (oral)	:	Not classified
Acute toxicity (dermal)	:	Not classified
Acute toxicity (inhalation)	:	Toxic if inhaled.
Additional information	:	Risks of oedema and respiratory failure

R-717 (ANHYDROUS AMMONIA NH3) (7664-41-7)	
LD50 oral rat	350 mg/kg

R-717 (ANHYDROUS AMMONIA NH3) (7664-41-7)	
LC50 Inhalation - Rat [ppm]	2000 ppmv/4h

Skin corrosion/irritation : Corrosive. (OECD 404 method)
pH: Not applicable

Additional information : Causes severe burns

Serious eye damage/irritation : Causes serious eye burns
pH: Not applicable

Respiratory or skin sensitisation : No sensitizing effect known (Not applicable)

Germ cell mutagenicity : No mutagenic effect

Carcinogenicity : No carcinogenic effect

Reproductive toxicity : No mutagenic effect. No teratogenic effect

STOT-single exposure : Irritating to respiratory system

R-717 (ANHYDROUS AMMONIA NH3) (7664-41-7)	
LOAEL (oral, rat)	750 mg/kg bodyweight (OECD 422 method)
NOAEL (oral, rat)	250 mg/kg bodyweight (OECD 422 method)

STOT-repeated exposure : No data

Aspiration hazard : Not applicable.

R-717 (ANHYDROUS AMMONIA NH3) (7664-41-7)	
Viscosity, kinematic	Not applicable

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

11.2.2. Other information

Other information : ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Coughing. Irritation of the respiratory tract. Irritation of the eye tissue. Redness of the eye tissue. Possible inflammation of the respiratory tract. Respiratory difficulties. Affection of the nasal septum.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - water : Very toxic to aquatic life.

Hazardous to the aquatic environment, short–term (acute) : Very toxic to aquatic life.

Hazardous to the aquatic environment, long–term (chronic) : Not classified

R-717 (ANHYDROUS AMMONIA NH3) (7664-41-7)	
LC50 - Fish [1]	0.89 (0.16 – 1.1) mg/l (96 Hours)
EC50 - Crustacea [1]	2.08 – 4.94 mg/l (48 Hours)
ErC50 algae	2700 mg/l 18 days

12.2. Persistence and degradability

R-717 (ANHYDROUS AMMONIA NH3) (7664-41-7)	
Persistence and degradability	Biodegradable.

12.3. Bioaccumulative potential

R-717 (ANHYDROUS AMMONIA NH3) (7664-41-7)	
Partition coefficient n-octanol/water (Log Pow)	0.23

R-717 (ANHYDROUS AMMONIA NH3) (7664-41-7)	
Partition coefficient n-octanol/water (Log Kow)	< 4
Bioaccumulative potential	Low bioaccumulation potential.

12.4. Mobility in soil

R-717 (ANHYDROUS AMMONIA NH3) (7664-41-7)	
Mobility in soil	Not specifically applicable (gas)

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Endocrine disrupting properties

No additional information available

12.7. Other adverse effects

Other adverse effects : GWP (CO2=1/100 years) = 0,May cause pH changes in aqueous ecological systems
Additional information : No other effects known

SECTION 13: Disposal considerations

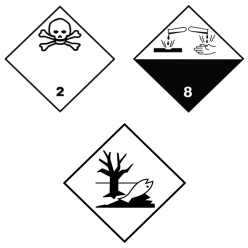
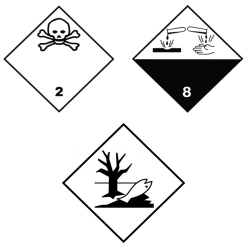
13.1. Waste treatment methods

Product/Packaging disposal recommendations : Comply with local regulations for disposal.
Additional information : Destroy at an authorised site. The user's attention is drawn to the possible existence of specific european, national or local regulations regarding disposal.
European List of Waste (LoW) code : 16 05 04* - gases in pressure containers (including halons) containing dangerous substances

SECTION 14: Transport information

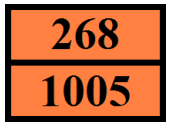
In accordance with ADR / IMDG / IATA

ADR	IMDG	IATA
14.1. UN number or ID number		
UN 1005	UN 1005	UN 1005
14.2. UN proper shipping name		
AMMONIA, ANHYDROUS	AMMONIA, ANHYDROUS	Ammonia, anhydrous
Transport document description		
UN 1005 AMMONIA, ANHYDROUS, 2.3 (8), (C/D), ENVIRONMENTALLY HAZARDOUS	UN 1005 AMMONIA, ANHYDROUS, 2.3 (8), MARINE POLLUTANT/ENVIRONMENTALLY HAZARDOUS	UN 1005 Ammonia, anhydrous, 2.3 (8), ENVIRONMENTALLY HAZARDOUS
14.3. Transport hazard class(es)		
2.3 (8)	2.3 (8)	2.3 (8)

ADR	IMDG	IATA
		
14.4. Packing group		
Not applicable	Not applicable	Not applicable
14.5. Environmental hazards		
Dangerous for the environment: Yes	Dangerous for the environment: Yes Marine pollutant: Yes	Dangerous for the environment: Yes
No supplementary information available		

14.6. Special precautions for user

Overland transport

Classification code (ADR)	:	2TC
Special provisions (ADR)	:	23
Limited quantities (ADR)	:	0
Tank code (ADR)	:	PxBH(M)
Transport category (ADR)	:	1
Hazard identification number (Kemler No.)	:	268
Orange plates	:	
Tunnel restriction code (ADR)	:	C/D
EAC code	:	2RE
APP code	:	A(c)

Transport by sea

Special provisions (IMDG)	:	23
Limited quantities (IMDG)	:	0
EmS-No. (Fire)	:	F-C
EmS-No. (Spillage)	:	S-U
Flash point (IMDG)	:	Not applicable

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
Special provisions (IATA)	:	A2

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)

No REACH Annex XVII restrictions

REACH Annex XIV (Authorisation List)

R-717 (ANHYDROUS AMMONIA NH3) is not on the REACH Annex XIV List

REACH Candidate List (SVHC)

R-717 (ANHYDROUS AMMONIA NH3) is not on the REACH Candidate List

PIC Regulation (Prior Informed Consent)

R-717 (ANHYDROUS AMMONIA NH3) is not subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 july 2012 concerning the export and import of hazardous chemicals.

POP Regulation (Persistent Organic Pollutants)

R-717 (ANHYDROUS AMMONIA NH3) is not subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

Ozone Regulation (1005/2009)

R-717 (ANHYDROUS AMMONIA NH3) is not subject to REGULATION (EU) No 1005/2009 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 September 2009 on substances that deplete the ozone layer.

VOC Directive (2004/42)

VOC content : Not applicable.

Explosives Precursors Regulation (2019/1148)

Contains no substance subject to Regulation (EU) 2019/1148 of the European Parliament and of the Council of 20 June 2019 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 drug precursors)

15.1.2. National regulations

Ensure all national/local regulations are observed.

15.2. Chemical safety assessment

A chemical safety assessment has been carried out for the substance or the mixture by the supplier
Cf. exposure scenario

SECTION 16: Other information

Indication of changes			
Section	**Changed item**	**Change**	**Comments**
9	Physico-chemical hazard data	Modified	

Other information : Product for industrial use only.

Full text of H- and EUH-statements:	
Acute Tox. 3 (Inhalation)	Acute toxicity (inhal.), Category 3
Acute Tox. 3 (Inhalation:gas)	Acute toxicity (inhalation:gas) Category 3
Aquatic Acute 1	Hazardous to the aquatic environment – Acute Hazard, Category 1
Flam. Gas 2	Flammable gases, Category 2

Full text of H- and EUH-statements:	
H221	Flammable gas.
H280	Contains gas under pressure; may explode if heated.
H314	Causes severe skin burns and eye damage.
H331	Toxic if inhaled.
H400	Very toxic to aquatic life.
Press. Gas	Gases under pressure
Press. Gas (Liq.)	Gases under pressure : Liquefied gas
Skin Corr. 1B	Skin corrosion/irritation, Category 1, Sub-Category 1B

Full text of use descriptors	
ERC4	Use of non-reactive processing aid at industrial site (no inclusion into or onto article)
ERC5	Use at industrial site leading to inclusion into/onto article
ERC6b	Use of reactive processing aid at industrial site (no inclusion into or onto article)
ERC7	Use of functional fluid at industrial site
ERC8b	Widespread use of reactive processing aid (no inclusion into or onto article, indoor)
ERC8e	Widespread use of reactive processing aid (no inclusion into or onto article, outdoor)
ERC8f	Widespread use leading to inclusion into/onto article (outdoor)
ERC9b	Widespread use of functional fluid (outdoor)
PROC1	Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions
PROC13	Treatment of articles by dipping and pouring
PROC15	Use as laboratory reagent
PROC2	Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions
PROC20	Use of functional fluids in small devices
PROC3	Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition
PROC4	Chemical production where opportunity for exposure arises
PROC5	Mixing or blending in batch processes
PROC8a	Transfer of substance or mixture (charging and discharging) at non-dedicated facilities
PROC8b	Transfer of substance or mixture (charging and discharging) at dedicated facilities
PROC9	Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
SU3	Industrial uses: Uses of substances as such or in preparations* at industrial sites

Safety Data Sheet (SDS), EU

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.