

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

1.1. Product identifier

Product form : Mixture
Name : DUONETT
UFI : 25J0-V0RV-E00E-FGYY
Product code : 103210000

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

Relevant identified uses

Main use category : Professional use
Use of the substance/mixture : Descaling product

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

ContactFDS@climalife.dehon.com

Other

Climalife Kft Budepesta sucursală București Romania
Strada Teodosie Rudeanu, Nr. 49A
Biroul NR 4, Modulul I
011257 București Sector 1
Romania
T +40 311 096 804

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 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

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

Prochimac SA
ZI. Rue des Petits-Champs 15
CH-1400 Yverdon-les-Bains
Switzerland

Other

Climalife Hongrie Kft.
Villányi út 47
1118 Budapest
Hungary
T (36) 23 431 660

ContactFDS@climalife.dehon.com

Other

Climalife Italia Srl
Viale Delle Industrie 57
20881 Bernareggio(MB)
Italia
T +39 39-5973480, F

ContactFDS@climalife.dehon.com

Other

Dehon nordic service
Östra Hamngatan 50B 3tr
41109 GÖTEBORG
Sweden
T 00 46 44 21 58 80

ContactFDS@climalife.dehon.com

Other

Dehon Service Nederland B.V.
Van Konijnenburgweg 84
NL-4612 PL Bergen Op Zoom
Netherlands
T 00 31 164 212 830

ContactFDS@climalife.dehon.com

Other

IDS Refrigeration Limited
22 Apex Court, Woodlands, Bradley Stoke
BS32 4JT Bristol
United Kingdom
T 00 44 1179 802520

ContactFDS@climalife.dehon.com

Other

Galco s.a/n.v.
Avenue Carton de Wiart, 79
1090 BRUSSELS
Belgium

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T 00 41 32 727 36 00, F 00 41 32 727 36 19

ContactFDS@climalife.dehon.com

Other

Climalife Asia Corporation
Room 302-A82, No.3, Building 1509, Xin Zhen Road,
201101 Shanghai, Minhang District
China

T +86 21 6442 3972, F +86 21 6442 3952

ContactFDS@climalife.dehon.com

Other

Teknalys Middle East FZCO
B34BS330203, Jebel Ali Freezone

Dubai

United Arab Emirates

ContactFDS@climalife.dehon.com

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

Galco Singapore Branch
135 Cecil Street #10-01
69536 Singapore

ContactFDS@climalife.dehon.com

1.4. Emergency telephone number

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

Country/Area	Organisation/Company	Address	Emergency number	Comment
Ireland	National Poisons Information Centre Beaumont Hospital	PO Box 1297 Beaumont Road 9 Dublin	+353 1 809 2566 (Healthcare professionals- 24/7) +353 1 809 2166 (public, 8am - 10pm, 7/7)	
United Kingdom	National Poisons Information Service (Birmingham Centre) City Hospital	Dudley Road B18 7QH	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]

Met. Corr. 1 H290

Skin Corr. 1B H314

Eye Dam. 1 H318

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

Signal word (CLP)

: Danger

Contains

: Hydrochloric acid

Hazard statements (CLP)

: H290 - May be corrosive to metals.

H314 - Causes severe skin burns and eye damage.

Precautionary statements (CLP)

: P260 - Do not breathe spray, mist, fume, gas, dust, vapours.

P280 - Wear protective clothing, eye protection, face protection.

P301+P330+P331+P310 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

Immediately call a POISON CENTER, a doctor.

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P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P390 - Absorb spillage to prevent material damage.
P501 - Dispose of contents and container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards

Contains no PBT and/or vPvB substances $\geq 0.1\%$ assessed in accordance with REACH Annex XIII

The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or substance(s) are not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Hydrochloric acid	CAS-No.: 7647-01-0 EC-No.: 231-595-7 EC Index-No.: 017-002-01-X REACH-no: 01-2119484862-27	<10	Met. Corr. 1, H290 Skin Corr. 1B, H314 Eye Irrit. 2, H319 STOT SE 3, H335

Specific concentration limits:

Name	Product identifier	Specific concentration limits (%)
Hydrochloric acid	CAS-No.: 7647-01-0 EC-No.: 231-595-7 EC Index-No.: 017-002-01-X REACH-no: 01-2119484862-27	($10 \leq C < 25$) Eye Irrit. 2; H319 ($10 \leq C < 25$) Skin Irrit. 2; H315 ($10 \leq C < 100$) STOT SE 3; H335 ($25 \leq C < 100$) Skin Corr. 1B; H314

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

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: Move the affected person away from the contaminated area and into the fresh air.
First-aid measures after inhalation	: If the person feels unwell : Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor.
First-aid measures after skin contact	: If skin irritation occurs: Get medical advice/attention. Remove clothing and rinse skin with water.
First-aid measures after eye contact	: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion	: Rinse mouth. Do not give anything to drink. Do not induce vomiting. Immediately call a POISON CENTER/doctor.

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

Symptoms/effects after inhalation	: May cause irritation to the respiratory tract, sneezing, coughing, burning sensation of throat with constricting sensation of the larynx and difficulty in breathing.
Symptoms/effects after skin contact	: May cause moderate irritation. Prolonged or repeated contact with the skin may cause dermatitis.
Symptoms/effects after eye contact	: Causes serious eye damage. Redness. Lacrimation. Tingling sensation. Swelling.

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Symptoms/effects after ingestion : Ingestion may cause nausea and vomiting. Diarrhea.

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

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Dry chemical, CO₂, dry sand, or alcohol-resistant foam.
Unsuitable extinguishing media : Strong water jet.

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire : Hydrogen chloride. Toxic fumes. Carbon oxides (CO, CO₂).

5.3. Advice for firefighters

Precautionary measures fire : Cool down the containers exposed to heat with a water spray.
Protection during firefighting : Complete protective clothing. Self-contained breathing apparatus.
Other information : Contain the extinguishing fluids by bunding. In case of fire, corrosive and harmful gases come free.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Avoid contact with skin and eyes. Do not attempt to take action without suitable protective equipment. Ventilate spillage area.

For non-emergency personnel

Emergency procedures : Evacuate area.

For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment.

6.2. Environmental precautions

Contain the spilled material by bunding. Do not allow into drains or water courses. Notify authorities if product enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

For containment : Liquid spill: take up in dry sand/earth/vermiculite.
Methods for cleaning up : Notify authorities if product enters sewers or public waters. Absorb remaining liquid with sand or inert absorbent and remove to safe place.
Other information : Dispose of contaminated materials in accordance with current regulations.

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 : Observe the label precautions. Use personal protective equipment as required.
Hygiene measures : Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep container closed when not in use. Store in dry, well-ventilated area. Keep away from (strong) bases. Acid resistant materials.
Incompatible materials : Bases. Alkaline hydroxide. Oxidizer. sulphides. Organic peroxides.

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Maximum storage period : 730 days
Storage temperature : 20 °C
Packaging materials : Polyethylene. Polypropylene.

7.3. Specific end use(s)

No additional information.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

National occupational exposure and biological limit values

Hydrochloric acid (7647-01-0)	
EU - Indicative Occupational Exposure Limit (IOEL)	
IOEL TWA	15 mg/m ³
	10 ppm
IOEL STEL	8 mg/m ³
	5 ppm
Ireland - Occupational Exposure Limits	
OEL TWA	8 mg/m ³
	5 ppm
OEL STEL	15 mg/m ³
	10 ppm

DNEL and PNEC

Hydrochloric acid (7647-01-0)	
DNEL/DMEL (Workers)	
Acute - local effects, inhalation	15 mg/m ³
Long-term - local effects, inhalation	8 mg/m ³
PNEC (Water)	
PNEC aqua (freshwater)	36 mg/l
PNEC aqua (marine water)	36 mg/l
PNEC (Soil)	
PNEC soil	0.036 mg/kg dwt
PNEC (STP)	
PNEC sewage treatment plant	36 mg/l

8.2. Exposure controls

Personal protection equipment

Eye and face protection

Eye protection:

Safety glasses with side shields. Use eye protection according to EN 166, designed to protect against liquid splashes.

Skin protection

Skin and body protection:

Use chemically protective clothing.

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Hand protection:

Acid-resistant protective gloves. Chemical resistant gloves (according to European standard NF ISO 374-1 or equivalent)

Respiratory protection

Respiratory protection:

Ensure adequate ventilation, especially in confined areas. In case of vapour formation use adequate respirator. EN 145. EN 143. EN 149. EN 136. EN 141

Environmental exposure controls

Environmental exposure controls:

Avoid release to the environment. Install a retention tank. Precautions storage. Do not exceed the occupational exposure limits (OEL).

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Colour	: Yellow.
Odour	: Not available
Odour threshold	: Not available
Melting point	: -13 °C
Freezing point	: Not available
Boiling point	: 100 °C
Flammability	: Not available
Lower explosion limit	: Not available
Upper explosion limit	: Not available
Flash point	: Not applicable
Auto-ignition temperature	: Not available
Decomposition temperature	: Not available
pH	: < 2
Viscosity, kinematic	: Not available
Solubility	: In water, material soluble.
Partition coefficient n-octanol/water (Log Kow)	: Not available
Vapour pressure	: Not available
Vapour pressure at 50°C	: Not available
Density	: 1.064 g/cm ³ (20°C)
Relative density	: Not available
Relative vapour density at 20°C	: Not available
Particle characteristics	: Not applicable

9.2. Other information

Other safety characteristics

VOC content : 0 %

SECTION 10: Stability and reactivity

10.1. Reactivity

No dangerous reactions known under normal conditions of use.

10.2. Chemical stability

Stable at ambient temperature and under normal conditions of use.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Extremely high or low temperatures. Incompatible materials.

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10.5. Incompatible materials

Perchlorate. Reducing agent. Oxidizing agent. Alkalis and caustic products. Hydrogen chloride. Strong oxidizers. Peroxides. sulphides.

10.6. Hazardous decomposition products

No data.

SECTION 11: Toxicological information

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

Acute toxicity (oral) : May be harmful if swallowed
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : May be harmful if inhaled

Hydrochloric acid (7647-01-0)

LD50 oral rat	2222 mg/kg
LD50 dermal	> 5010 mg/kg
LC50 Inhalation - Rat	45.6 mg/l

Skin corrosion/irritation : mild skin irritation
pH: < 2
Serious eye damage/irritation : May cause moderate irritation to the eyes
pH: < 2
Respiratory or skin sensitisation : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified
Reproductive toxicity : Not classified
STOT-single exposure : Not classified

Hydrochloric acid (7647-01-0)

STOT-single exposure	May cause respiratory irritation.
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified

11.2. Information on other hazards

Endocrine disrupting properties

Adverse health effects caused by endocrine disrupting properties : The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %

SECTION 12: Ecological information

12.1. Toxicity

Hazardous to the aquatic environment, short-term (acute) : Not classified
Hazardous to the aquatic environment, long-term (chronic) : Not classified

Hydrochloric acid (7647-01-0)

LC50 - Fish [1]	10 – 100 mg/l
LC50 - Fish [2]	20.5 mg/l <i>Lepomis macrochirus</i>
EC50 - Crustacea [1]	0.45 mg/l <i>Daphnia magna</i> (OCDE 202)

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Hydrochloric acid (7647-01-0)

ErC50 algae

0.73 mg/l

12.2. Persistence and degradability

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Persistence and degradability

Not established.

Hydrochloric acid (7647-01-0)

Persistence and degradability

Rapidly degradable

12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Endocrine disrupting properties

Adverse effects on the environment caused by endocrine disrupting properties

: The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %.

12.7. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods

: Entrust the thoroughly decontaminated packaging to a licensed waste-contractor. Dispose in a safe manner in accordance with local/national regulations.

Additional information

: The user's attention is drawn to the possible existence of specific european, national or local regulations regarding disposal.

SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / RID

ADR	IMDG	IATA	RID
14.1. UN number or ID number			
UN 1789	UN 1789	UN 1789	UN 1789
14.2. UN proper shipping name			
HYDROCHLORIC ACID (SOLUTION)	HYDROCHLORIC ACID (SOLUTION)	Hydrochloric acid (SOLUTION)	HYDROCHLORIC ACID (SOLUTION)
Transport document description			
UN 1789 HYDROCHLORIC ACID (SOLUTION), 8, II, (E)	UN 1789 HYDROCHLORIC ACID (SOLUTION), 8, II	UN 1789 Hydrochloric acid (SOLUTION), 8, II	UN 1789 HYDROCHLORIC ACID (SOLUTION), 8, II

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ADR	IMDG	IATA	RID
14.3. Transport hazard class(es)			
8	8	8	8
			
14.4. Packing group			
II	II	II	II
14.5. Environmental hazards			
Dangerous for the environment: No	Dangerous for the environment: No Marine pollutant: No EmS-No. (Fire): F-A EmS-No. (Spillage): S-B	Dangerous for the environment: No	Dangerous for the environment: No
No supplementary information available			

14.6. Special precautions for user

Overland transport

Classification code (ADR) : C1
Special provisions (ADR) : 520
Limited quantities (ADR) : 1I
Tank code (ADR) : L4BN
Transport category (ADR) : 2
Hazard identification number (Kemler No.) : 80
Orange plates :



Tunnel restriction code (ADR) : E
EAC code : 2R

Transport by sea

Limited quantities (IMDG) : 1 L
Segregation (IMDG) : SGG1A, SG36, SG49

Air transport

PCA Limited quantities (IATA) : Y840
PCA limited quantity max net quantity (IATA) : 0.5L
PCA packing instructions (IATA) : 851
PCA max net quantity (IATA) : 1L
CAO packing instructions (IATA) : 855
CAO max net quantity (IATA) : 30L
Special provisions (IATA) : A3, A803

Rail transport

Classification code (RID) : C1
Special provisions (RID) : 520
Limited quantities (RID) : 1L
Tank codes for RID tanks (RID) : L4BN
Transport category (RID) : 2
Colis express (express parcels) (RID) : CE6
Hazard identification number (RID) : 80

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

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SECTION 15: Regulatory information

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

EU-Regulations

REACH Annex XVII (Restriction List)

EU restriction list (REACH Annex XVII)	
Reference code	Applicable on
3(b)	DUONETT ; Hydrochloric acid

REACH Annex XIV (Authorisation List)

Contains no substance(s) listed on REACH Annex XIV (Authorisation List)

REACH Candidate List (SVHC)

Contains no substance(s) listed on the REACH Candidate List

PIC Regulation (Prior Informed Consent)

Contains no substance(s) listed on the PIC list (Regulation EU 649/2012 concerning the export and import of hazardous chemicals)

POP Regulation (Persistent Organic Pollutants)

Contains no substance(s) listed on the POP list (Regulation EU 2019/1021 on persistent organic pollutants)

Ozone Regulation (2024/590)

Contains no substance(s) listed on the Ozone Depletion list (Regulation EU 2024/590 on substances that deplete the ozone layer)

Council Regulation (EC) for the control of dual-use items

Contains no substance subject to the COUNCIL REGULATION (EC) for the control of dual-use items

VOC Directive (2004/42)

VOC content : 0 %

Explosives Precursors Regulation (EU 2019/1148)

Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

Drug Precursors Regulation (EC 273/2004)

Contains substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

Name	CN designation	CAS-No.	CN code	Category, Subcategory	Threshold	Annex
Hydrochloric acid	Hydrogen chloride	7647-01-0	2806 10 00	Category 3		Annex I

15.2. Chemical safety assessment

No additional information available

SECTION 16: Other information

Indication of changes		
Section	Changed item	Comments
1.1	UFI on SDS 1.1	Modified
9	VOC content	Added
9	Colour	Modified
12.2	Persistence and degradability	Added
15	Other information, restriction and prohibition regulations	Removed

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Full text of H- and EUH-statements:

Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Met. Corr. 1	Corrosive to metals, Category 1
Skin Corr. 1B	Skin corrosion/irritation, Category 1, Sub-Category 1B
Skin Irrit. 2	Skin corrosion/irritation, Category 2
STOT SE 3	Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation
H290	May be corrosive to metals.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.

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.