

SILICONI COMMERCIALE SPA

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Safety Data Sheet PULIFREN







Safety Data Sheet dated 26/8/2020, version 5.0

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

1.1. Product identifier

Mixture identification:

Trade name: PULIFREN Trade code: 13810/05

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

Recommended use:

Cleaner Degreaser for brakes (aerosol)

Uses advised against:

Relevant uses are listed above. No other uses are recommended.

1.3. Details of the supplier of the safety data sheet

Company:

SILICONÍ COMMERCIALE SPA - Via Francia 4 Z.I. 36053 Gambellara (VI) ITALY Phone No.: +39 0444 649766 SILICONI COMMERCIALE SPA - ph n. +39 0444 649766 From Monday to Friday from 8 a.m. to 5 p.m.

Competent person responsible for the safety data sheet:

lab@siliconi.it

1.4. Emergency telephone number

SILICONI COMMERCIALE SPA - ph n. +39 0444 649766 From Monday to Friday from 8 a.m. to 5 p.m.

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

EC regulation criteria 1272/2008 (CLP)



Danger, Aerosols 1, Extremely flammable aerosol. Pressurized container: may burst if heated.



Warning, Skin Irrit. 2, Causes skin irritation.



Warning, Eye Irrit. 2, Causes serious eye irritation.



Warning, STOT SE 3, May cause drowsiness or dizziness.



Aquatic Chronic 2, Toxic to aquatic life with long lasting effects.

Adverse physicochemical, human health and environmental effects:

No other hazards

2.2. Label elements

Hazard pictograms:



Danger

Hazard statements:

H222, H229 Extremely flammable aerosol. Pressurized container: may burst if heated.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H336 May cause drowsiness or dizziness.

H411 Toxic to aquatic life with long lasting effects.

Precautionary statements:

P102 Keep out of reach of children.

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.

P261 Avoid breathing spray.

P271 Use only outdoors or in a well-ventilated area.

P410+P412 Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122°F.

P501 Dispose of contents/container in accordance with regulation.

Special Provisions:

Directive 648/2004 (Detergents)

> 30%: Aliphatic Hydrocarbons

The manufacturer cannot be held responsible in case of damages caused by incorrect use of the product.

Contains

Hydrocarbons, C6, isoalkanes, <5 % n-hexane

acetone

Special provisions according to Annex XVII of REACH and subsequent amendments:

For professional users only.

2.3. Other hazards

vPvB Substances: None - PBT Substances: None

Other Hazards:

Aerosol containers may deform, explode and be thrown far away if exposed to temperature exceeding 50°C. Vapours forms flammable and explosive mixture with air; vapours are heavier than air, so they can accumulate in confined spaces and spread over the ground, causing fire risk even if the ignition occurs far away from the leakage. Aerosol contains an asphyxiating gas: avoid vapours accumulation in closed spaces because of asphyxiating risk due to the lack of oxygen. Exposure to high concentrations of vapors, particularly in confined and inadequately ventilated environments, can cause respiratory irritation, nausea, malaise and lightheadedness.

SECTION 3: Composition/information on ingredients

3.1. Substances

N.A.

3.2. Mixtures

Hazardous components within the meaning of the CLP regulation and related classification:

Qty	Name	Ident. Number		Classification
>= 60% - <70%	Hydrocarbons, C6, isoalkanes, <5 % n-hexane	EC: REACH No.:	931-254-9 01-2119484651-34	2.6/2 Flam. Liq. 2 H225 3.10/1 Asp. Tox. 1 H304 3.2/2 Skin Irrit. 2 H315 3.8/3 STOT SE 3 H336 4.1/C2 Aquatic Chronic 2
>= 15% - < 20%	acetone	Index number: CAS: EC: REACH No.:	606-001-00-8 67-64-1 200-662-2 01-2119471330-49	2.6/2 Flam. Liq. 2 H225 3.3/2 Eye Irrit. 2 H319 3.8/3 STOT SE 3 H336 EUH066
>= 3% - < 5%	butane	Index number: CAS: EC: REACH No.:	601-004-00-0 106-97-8 203-448-7 01-2119474691-32	2.2/1 Flam. Gas 1 H220 2.5 Press. Gas H280
>= 2% - < 3%	propane	Index number: CAS: EC: REACH No.:	601-003-00-5 74-98-6 200-827-9 01-2119486944-21	2.2/1 Flam. Gas 1 H220 2.5 Press. Gas H280
>= 1% - < 1,5%	isobutane	Index number: CAS: EC: REACH No.:	601-004-00-0 75-28-5 200-857-2 01-2119485395-27	2.2/1 Flam. Gas 1 H220 2.5 Press. Gas H280

For the wording of the listed hazard statements refer to section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

In case of skin contact:

Immediately take off all contaminated clothing and wash them before reuse. Areas of the body that have - or are only even suspected of having - come into contact with the product must be rinsed immediately with plenty of running water and possibly with soap. Wash thoroughly the body (shower or bath). In case of irritation seek medical advice.

In case of eyes contact:

After contact with the eyes, rinse immediately with plenty of water with open eyelids for at least 15 minutes. Remove contact lenses, if it is easy to do so. Then consult an opthalmologist immediately. Protect uninjured eye.

In case of Ingestion:

Aerosol inadvertent ingestion in unlikely to happen. In case of ingestion, consult a doctor. Induce vomiting only in case the doctor suggest to do so. Don't give nothing orally if the person is unconscious.

In case of Inhalation:

Remove casualty to fresh air and keep warm and at rest. Consult a doctor in case of difficult breathing.

Protective measurement for first-aiders:

See section 8.2 to check personal protective equipment for first-aid measures.

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

For symptoms and effects due to the contained substances, see Section 11.

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

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

Treatment:

None

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:

CO2 (carbon dioxide), dry chemical or chemical foam fire extinguisher.

Extinguishing media which must not be used for safety reasons:

Do not use water jets on the burning product.

5.2. Special hazards arising from the substance or mixture

Do not inhale explosion and combustion gases. Burning produces heavy smoke.

Do not inhale explosion and combustion gases. Combustion originates complex gas mixtures, containing carbon monoxide (CO), carbon dioxide (CO2) and unburned hydrocarbons. Vapours are heavier than air, and may form flammable mixtures with air. Containers may deform and explode if exposed to temperature exceeding 50 °C.

5.3. Advice for firefighters

Wear full fire protection equipment (Type EN 11611 or EN469) with self-contained breathing apparatus (Type EN 137), visor helmet and neck protection (Type EN443), anti-heat gloves (Type EN407). Cool with nebulized water the containers invested by the fire to avoid overheating. Do not let the extinguishing media penetrate the sewers or waterways. Move undamaged containers from immediate hazard area if it can be done safely. Collect contaminated fire extinguishing water separately. Fire extinguishing water must not be discharged into drains.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non emergency personnel:

Eliminate all sources of ignition (cigarettes, flames, sparks, electricity, etc.) or heat from the area in which the leak occurred and provide adequate ventilation. Evacuate the surrounding areas and prevent the entry of external and unprotected personnel. Notify emergency teams. Block the loss if there is no danger. Do not handle damaged containers or leaked product without first wearing appropriate protective equipment. Avoid breathing vapors or fog. For information on risks to the environment and health, respiratory protection, ventilation and individual protective measures, refer to section 8.

For emergency responders:

Emergency operators are advised to wear appropriate personal protective equipment as indicated in section 8. The vapors are heavier than air and can accumulate in enclosed spaces and low areas where it can easily catch fire. In the event that the situation can not be fully evaluated or if there is a risk of oxygen deficiency, use only an autonomous respirator (Type EN137).

6.2. Environmental precautions

Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains. Retain contaminated washing water and dispose it. In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.

6.3. Methods and material for containment and cleaning up

Provide proper ventilation. Use non-sparking tools and equipment. Wash with plenty of water. Contain spillage with non-combustible absorbing materials such as sand, earth, vermiculite, diatomaceous earth and dispose of the product by means of a waste disposal authorized company.

6.4. Reference to other sections

See also section 8 and 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Pressurized container. Do not perforate or burn even after use. Do not use near flames or other possible sources of ignition. Do not smoke during work. Avoid accumulation of electrostatic charge. Do not spray on flames, warm surface or incandescent objects. Use only in a well ventilated area. Vapours may burn, causing explosions. Prevent vapours accumulation by keeping doors and windows open and by assuring a proper ventilation. Vapours are heavier than air, so they can accumulate in confined spaces and spread over the ground, causing fire risk even if the ignition occurs far away from the leakage. Avoid direct exposure to sunlight. Do not expose to temperatures exceeding 50°C/122°F. Avoid skin and eye contact, vapours and mist inhalation.

Environmental protection measures:

Reduce the risk of releasing the mixture in the environment/air. Avoid inadvertent leakage, store far away from sewer. Occupational hygiene measures:

Contaminated clothes have to be substituted before entering dining rooms. Do not eat, drink or smoke at workplace. Wash hands after using the mixture. See also section 8 for recommended protective equipment.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures and storage conditions:

Store in a well ventilated area, protect from direct sunlight. Recommended storage temperature: between 15°C and 30°C. Protect from flames, sparks, heat/combustion sources. Keep containers in an upright and safe position, preventing them from falls and collisions. Do not store in corridors and stairs. Store only in original and tightly closes containers. Do not perforate or open the containers. Keep away from unguarded flame, sparks, and heat sources. Avoid direct exposure to sunlight. Keep away from food, drink and feed.

Incompatible materials:

Do not store with comburents, self-flammable or self-heating substances, organic peroxides, oxidising agents, pyrophoric solids or liquids, explosives.

See also section 10.

Instructions as regards storage premises:

Proper ventilation. Avoid electrostatic charge accumulation.

Storage class:

See section 15.1 (Seveso III).

7.3. Specific end use(s)

See section 1.2.

SECTION 8: Exposure controls/personal protection

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8.1. Control parameters
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Hydrocarbons, C6, isoalkanes, <5 % n-hexane
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TLV TWA - 1200 mg/m3

acetone - CAS: 67-64-1

EU - TWA(8h): 1210 mg/m3, 500 ppm

ACGIH - TWA(8h): 250 ppm - STEL: 500 ppm - Notes: A4, BEI - URT and eye irr, CNS impair

butane - CAS: 106-97-8

ACGIH - STEL: 1000 ppm - Notes: (EX) - CNS impair

propane - CAS: 74-98-6

ACGIH - Notes: (D, EX) - Asphyxia

isobutane - CAS: 75-28-5

ACGIH - STEL: 1000 ppm - Notes: (EX) - CNS impair

DNEL Exposure Limit Values

Hydrocarbons, C6, isoalkanes, <5 % n-hexane

Consumer: 1301 mg/kg - Exposure: Human Oral - Frequency: Long Term, systemic effects - Notes: bw/day Worker Industry: 13964 mg/m3 - Consumer: 1377 mg/kg - Exposure: Human Dermal - Frequency: Long Term, systemic effects - Notes: bw/day

Worker Industry: 5306 mg/m3 - Consumer: 1137 mg/m3 - Exposure: Human Inhalation - Frequency: Long Term, systemic effects - Notes: bw/day

acetone - CAS: 67-64-1

Worker Industry: 2420 mg/m3 - Exposure: Human Inhalation - Frequency: Short Term, local effects Worker Industry: 1210 mg/m3 - Consumer: 200 mg/m3 - Exposure: Human Inhalation - Frequency: Long Term, local effects

Worker Industry: 186 mg/kg - Consumer: 62 mg/kg - Exposure: Human Dermal - Frequency: Long Term, local effects - Notes: bw/day

Consumer: 62 - Exposure: Human Oral - Frequency: Long Term, local effects - Notes: bw/day

PNEC Exposure Limit Values

acetone - CAS: 67-64-1

Target: Marine water - Value: 1.06 mg/l Target: Fresh Water - Value: 10.6 mg/l

Target: Marine water sediments - Value: 3.04 mg/kg Target: Freshwater sediments - Value: 30.4 mg/kg Target: Soil (agricultural) - Value: 29.5 mg/kg

8.2. Exposure controls

Appropriate engineering controls:

Adequately ventilate rooms where the product is stored and handled. Use only if the place is adequately ventilated. Local ventilation might be necessary for certain operations. Minimize exposure concentration at the workplace. Use proper technical equipment to maintain the concentration below threshold limit values or guidelines for exposure.

Eye protection:

Wear goggles with lateral protection EN166. If exposure to vapours cause a sense of bother to eyes, use antigas mask with complete facial.

Protection for skin:

Wear clean antistatic and covering garments, and antistatic safety-shoes for professional use, S2 category (Type EN20345). In case of long and frequent contact use protective garments, than are impervious to this product (Type EN340 – EN13034).

Protection for hands:

During manipulation is necessary protect hands with chemical resistant gloves Type EN374 (PVC, PE, neoprene, Nitrile, Viton, not natural Rubber). It is recommended to use gloves with Protective Index 6: permeation time >480min, Thickness >0,3mm. Change gloves in case of wear, cracks or internal contamination.

Respiratory protection:

Product concentration in air should be lower than exposure limit values. As the concentration exceed the threshold limit values, proper respiratory protection should be used. Use protective masks EN149 with FFP2 filters, half-face respirator type EN140 with EN143:A2 filters, or full face breathing mask EN136 with EN143:A2 filters.

Thermal Hazards:

The aerosol container if overheated, deforms, breaks and it can be thrown a considerable distance.

Environmental exposure controls:

Emissions originating from production and use of the product, included those originated during ventilation operations, should be monitored in order to comply with the environmental protection regulations. Product residuals shouldn't be drained into watercourses or waste water.

For further information see section 6.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Properties	Value	Notes:
Appearance and colour:	Pressurized container with liquefied gas	
Odour:	Characteristic of the solvents contained	
Odour threshold:	N.A.	
pH:	N.A.	
Melting point / freezing point:	N.A.	
Initial boiling point and boiling range:	N.A.	
Flash point:	< 0 ° C	
Evaporation rate:	N.A.	
Solid/gas flammability:	N.A.	
Upper/lower flammability or explosive limits:	15 Vol % - 1.8 Vol %	
Vapour pressure:	3-5 bar	
Vapour density:	2	
Relative density:	N.A.	
Solubility in water:	insoluble	
Solubility in oil:	soluble	
Partition coefficient (n-octanol/water):	N.A.	
Auto-ignition temperature:	> 300°C	
Decomposition temperature:	N.A.	
Viscosity:	N.A.	
Explosive properties:	Non explosive	
Oxidizing properties:	N.A.	

9.2. Other information

Properties	Value	Notes:
Miscibility:	N.A.	
Fat Solubility:	N.A.	
Conductivity:	N.A.	-
Substance Groups relevant properties	N.A.	-

SECTION 10: Stability and reactivity

10.1. Reactivity

Stable under normal conditions. No hazardous reaction are expected under normal use conditions.

10.2. Chemical stability

Pressurized container. Do not perforate nor burn, even after use. Protect from direct sunlight. Do not expose to temperature exceeding 50°C/122°F. Refer to section 7 for information regarding handling and storage.

10.3. Possibility of hazardous reactions

No hazardous reaction are expected under normal use conditions. Vapours may form explosive mixtures with air. Aerosol containers may deform, explode and be thrown far away if exposed to temperature exceeding 50°C.

10.4. Conditions to avoid

Avoid exposure to sunlight. Avoid overheating and any ignition source. Keep away from oxidizing agents.

10.5. Incompatible materials

Avoid contact with combustible materials. The product could catch fire. Avoid strong reducing and oxidising agents, strong acid and alkalis, warm object/materials.

10.6. Hazardous decomposition products

The product doesn't decompose under normal conditions. See section 5 for thermal decomposition.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Toxicological information of the product:

PULIFREN

a) acute toxicity

Not classified

Based on available data, the classification criteria are not met

b) skin corrosion/irritation

The product is classified: Skin Irrit. 2 H315

c) serious eye damage/irritation

The product is classified: Eye Irrit. 2 H319

d) respiratory or skin sensitisation

Not classified

Based on available data, the classification criteria are not met

e) germ cell mutagenicity

Not classified

Based on available data, the classification criteria are not met

f) carcinogenicity

Not classified

Based on available data, the classification criteria are not met

g) reproductive toxicity

Not classified

Based on available data, the classification criteria are not met

h) STOT-single exposure

The product is classified: STOT SE 3 H336

i) STOT-repeated exposure

Not classified

Based on available data, the classification criteria are not met

j) aspiration hazard

Not classified

Based on available data, the classification criteria are not met

Toxicological information of the main substances found in the product:

Hydrocarbons, C6, isoalkanes, <5 % n-hexane

a) acute toxicity:

Test: LC50 - Route: Inhalation - Species: Rat > 20 mg/l - Duration: 4h

Test: LD50 - Route: Oral - Species: Rat > 5000 mg/kg

Test: LD50 - Route: Skin - Species: Rabbit > 3000 mg/kg acetone - CAS: 67-64-1 a) acute toxicity: Test: LD50 - Route: Oral - Species: Rat = 5800 mg/kg Test: LC50 - Route: Inhalation - Species: Rat = 76 mg/l - Duration: 4h Test: LD50 - Route: Skin - Species: Rabbit > 15688 mg/kg c) serious eye damage/irritation: Test: Eye Irritant - Species: Rabbit Positive - Source: OECD405 butane - CAS: 106-97-8 a) acute toxicity: Test: LC50 - Route: Inhalation - Species: Rat 658 mg/l - Duration: 4h propane - CAS: 74-98-6 a) acute toxicity: Test: LC50 - Route: Inhalation - Species: Rat 658 mg/l - Duration: 4h b) skin corrosion/irritation: No irritating and corrosive effects on the skin and mucous membranes. c) serious eye damage/irritation: Contact with liquefied gas can cause cold burns.

SECTION 12: Ecological information

12.1. Toxicity

Adopt good working practices, so that the product is not released into the environment.

PULIFREN

The product is classified: Aquatic Chronic 2 - H411

Hydrocarbons, C6, isoalkanes, <5 % n-hexane

a) Aquatic acute toxicity:

Endpoint: LC50 - Species: Oryzias latipes > 1 mg/l - Duration h: 48

Endpoint: LC50 - Species: Daphnia magna = 3.87 mg/l - Duration h: 48

Endpoint: ErL50 - Species: Algae (Pseudokirchneriella subcapitata) = 55 mg/l - Duration h: 72

Endpoint: NOEC - Species: Algae (Pseudokirchneriella subcapitata) = 30 mg/l - Duration h: 72

acetone - CAS: 67-64-1

a) Aquatic acute toxicity:

Endpoint: LC50 - Species: Fish = 8120 mg/l - Duration h: 96

Endpoint: EC50 - Species: Daphnia = 6094 mg/l - Duration h: 48

12.2. Persistence and degradability

None

Hydrocarbons, C6, isoalkanes, <5 % n-hexane

Biodegradability: Readily biodegradable

12.3. Bioaccumulative potential

N.A

12.4. Mobility in soil

N.A

12.5. Results of PBT and vPvB assessment

vPvB Substances: None - PBT Substances: None

12.6. Other adverse effects

None

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Recover, if possible. Send to authorised disposal plants or for incineration under controlled conditions. In so doing, comply with the local and national regulations currently in force. Containers may explode if exposed to temperature exceeding 50°C, even if they contain only product residual. Empty containers shouldn't be dispersed in the environment.

European Waste Catalogue (EWC):

Domestic uses: aerosol wastes originating from domestic use are not included in this regulation.

Industrial uses: aerosol waste is classificated as 'Packaging containing residues of, or contaminated by, dangerous substances'. EWC code 15.01.10.

SECTION 14: Transport information

14.1. UN number

ADR-UN number: 1950

Safety Data Sheet dated 26/8/2020, revisione 5.0

IATA-Un number: 1950 IMDG-Un number: 1950

14.2. UN proper shipping name

ADR-Shipping Name: AEROSOLS, Flammable Limited Quantity: max 1000ml Total gross mass of

package not exceed 30 kg LQ2

AEROSOLS, Flammable IATA-Technical name:

AEROSOLS Limited Quantity: max 1000ml Total gross mass of package IMDG-Technical name:

not exceed 30 kg LQ2

14.3. Transport hazard class(es)

ADR-Class: 2, 5F

ADR-Label: Limited Quantity

IATA-Class: 2 IATA-Label: 2.1 IMDG-Class: 2

14.4. Packing group

Not applicable for Limited Quantity

14.5. Environmental hazards

Marine pollutant: No

14.6. Special precautions for user

IMDG-Technical name: AEROSOLS Limited Quantity: max 1000ml Total gross mass of package

not exceed 30 kg LQ2

IMDG-EMS: F-D IMDG-MFAG: S-U

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

SECTION 15: Regulatory information

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

Dir. 98/24/EC (Risks related to chemical agents at work)

Dir. 2000/39/EC (Occupational exposure limit values)

Regulation (EC) n. 1907/2006 (REACH) Regulation (EC) n. 1272/2008 (CLP)

Regulation (EC) n. 790/2009 (ATP 1 CLP) and (EU) n. 758/2013

Regulation (EU) 2015/830

Regulation (EU) n. 286/2011 (ATP 2 CLP)

Regulation (EU) n. 618/2012 (ATP 3 CLP) Regulation (EU) n. 487/2013 (ATP 4 CLP)

Regulation (EU) n. 944/2013 (ATP 5 CLP)

Regulation (EU) n. 605/2014 (ATP 6 CLP)

Regulation (EU) n. 2015/1221 (ATP 7 CLP)

Regulation (EU) n. 2016/918 (ATP 8 CLP)

Regulation (EU) n. 2016/1179 (ATP 9 CLP) Regulation (EU) n. 2017/776 (ATP 10 CLP)

Regulation (EU) n. 2018/669 (ATP 11 CLP)

Regulation (EU) n. 2018/1480 (ATP 13 CLP)

Restrictions related to the product or the substances contained according to Annex XVII Regulation (EC) 1907/2006 (REACH) and subsequent modifications:

No restriction.

Where applicable, refer to the following regulatory provisions:

Directive 2012/18/EU (Seveso III)

Regulation (EC) nr 648/2004 (detergents). Dir. 2004/42/EC (VOC directive)

Provisions related to directive EU 2012/18 (Seveso III):

Seveso III category according to Annex 1, part 1

Product belongs to category: P3a, E2

15.2. Chemical safety assessment

No Chemical Safety Assessment has been carried out for the mixture.

SECTION 16: Other information

Full text of phrases referred to in Section 3:

Safety Data Sheet dated 26/8/2020, revisione 5.0

Page n. 8 of 10

H225 Highly flammable liquid and vapour.

H304 May be fatal if swallowed and enters airways.

H315 Causes skin irritation.

H336 May cause drowsiness or dizziness.

H411 Toxic to aquatic life with long lasting effects.

H319 Causes serious eye irritation.

EUH066 Repeated exposure may cause skin dryness or cracking.

H220 Extremely flammable gas.

H280 Contains gas under pressure; may explode if heated.

Hazard class and hazard category	Code	Description
Flam. Gas 1	2.2/1	Flammable gas, Category 1
Aerosols 1	2.3/1	Aerosol, Category 1
Press. Gas	2.5	Gases under pressure
Flam. Liq. 2	2.6/2	Flammable liquid, Category 2
Asp. Tox. 1	3.10/1	Aspiration hazard, Category 1
Skin Irrit. 2	3.2/2	Skin irritation, Category 2
Eye Irrit. 2	3.3/2	Eye irritation, Category 2
STOT SE 3	3.8/3	Specific target organ toxicity - single exposure, Category 3
Aquatic Chronic 2	4.1/C2	Chronic (long term) aquatic hazard, category 2

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

Classification according to Regulation (EC) Nr. 1272/2008	Classification procedure	
Aerosols 1, H222, H229	On basis of test data	
Skin Irrit. 2, H315	Calculation method	
Eye Irrit. 2, H319	Calculation method	
STOT SE 3, H336	Calculation method	
Aquatic Chronic 2, H411	Calculation method	

Modified Paragraphs compared to the previous revision: SECTION: 1, 2, 3, 8, 11, 12, 14, 15, 16.

Main bibliographic sources:

ECDIN - Environmental Chemicals Data and Information Network - Joint Research Centre, Commission of the European Communities

SAX's DANGEROUS PROPERTIES OF INDUSTRIAL MATERIALS - Eight Edition - Van Nostrand Reinold The information contained herein is based on our state of knowledge at the above-specified date. It refers solely to the product indicated and constitutes no guarantee of particular quality.

It is the duty of the user to ensure that this information is appropriate and complete with respect to the specific use intended.

This MSDS cancels and replaces any preceding release.

ADR: European Agreement concerning the International Carriage of Dangerous Goods by

Road.

ATE: Acute Toxicity Estimate

ATEmix: Acute toxicity Estimate (Mixtures)

CAS: Chemical Abstracts Service (division of the American Chemical Society).

CLP: Classification, Labeling, Packaging.

DNEL: Derived No Effect Level.

EINECS: European Inventory of Existing Commercial Chemical Substances.

GefStoffVO: Ordinance on Hazardous Substances, Germany.

GHS: Globally Harmonized System of Classification and Labeling of Chemicals.

IATA: International Air Transport Association.
IATA-DGR: Dangerous Goods Regulation by the "In

IATA-DGR: Dangerous Goods Regulation by the "International Air Transport Association" (IATA).

ICAO: International Civil Aviation Organization.

ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO).

IMDG: International Maritime Code for Dangerous Goods.

INCI: International Nomenclature of Cosmetic Ingredients.

KSt: Explosion coefficient.

LC50: Lethal concentration, for 50 percent of test population.

LD50: Lethal dose, for 50 percent of test population.

Not available

N.A.: PNEC: Predicted No Effect Concentration.

Regulation Concerning the International Transport of Dangerous Goods by Rail. RID:

STEL: Short Term Exposure limit. Specific Target Organ Toxicity. STOT: Threshold Limiting Value. TLV: TWA: Time-weighted average WGK: German Water Hazard Class.