



Safety Data Sheet dated 19/6/2021, version 9

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

1.1. Product identifier

Mixture identification:

Trade name: PURI CLIMA

Trade code: 31005

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

Recommended use:

Detergent/cleaner

1.3. Details of the supplier of the safety data sheet

Supplier:

Arexons S.p.A.

via Antica di Cassano, 23, 20063

Cernusco sul Naviglio (MI), Italy

Arexons S.p.A.

Tel. +39 (0)2/924361 - Fax +39 (0)2/92436306

Competent person responsible for the safety data sheet:

arexons@arexons.it

1.4. Emergency telephone number

Arexons S.p.A.

Tel. +39 (0)2/924361 - Fax +39 (0)2/92436306

In England and Wales: NHS 111 - dial 111

In Scotland: NHS 24 - dial 111

In Ireland: Beaumont Hospital - National Poisons Information Centre 01 809 2166 (7days, 8:00 - 22:00)

In South Africa: Poison Information Helpline 0861 555 777

In Malta: emergency number 112

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.

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.

Precautionary statements:

P101 If medical advice is needed, have product container or label at hand.

P102 Keep out of reach of children.

P103 Read carefully and follow all instructions.

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.

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

Special Provisions:

None

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

None

Regulation (EC) nr 648/2004 (detergents).

Product contents:

Aliphatic hydrocarbons, Non-ionic surfactants

< 5 %

The product also contains: Perfumes

2.3. Other hazards

No PBT, vPvB or endocrine disruptor substances present in concentration $\geq 0.1\%$

Other Hazards:

No other hazards

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:

$\geq 3\%$ - < 5% Hydrocarbons, C3-4; Petroleum gas

REACH No.: 01-2119486557-22, Index number: 649-199-00-1, CAS: 68476-40-4, EC: 270-681-9

⚠ 2.2/1A Flam. Gas 1A H220

⚠ 2.5/L Press Gas (Liq.) H280

DECLK (CLP)*

$\geq 0.25\%$ - < 0.5% didecyldimethylammonium chloride

REACH No.: 01-2119945987-15, CAS: 7173-51-5, EC: 230-525-2

⚠ 3.1/3/Oral Acute Tox. 3 H301

⚠ 3.2/1B Skin Corr. 1B H314

⚠ 3.3/1 Eye Dam. 1 H318

⚠ 4.1/A1 Aquatic Acute 1 H400 M=10.

⚠ 4.1/C2 Aquatic Chronic 2 H411

$\geq 0.1\%$ - < 0.25% propan-2-ol

REACH No.: 01-2119457558-25, CAS: 67-63-0, EC: 200-661-7

⚠ 2.6/2 Flam. Liq. 2 H225

⚠ 3.3/2 Eye Irrit. 2 H319

⚠ 3.8/3 STOT SE 3 H336

$\geq 0.1\%$ - < 0.25%

REACH No.: 01-2119970550-39, CAS: 68424-85-1, EC: 939-350-2

⚠ 2.16/1 Met. Corr. 1 H290

⚠ 3.1/4/Oral Acute Tox. 4 H302

⚠ 3.2/1B Skin Corr. 1B H314

⚠ 3.3/1 Eye Dam. 1 H318

⚠ 4.1/A1 Aquatic Acute 1 H400 M=10.

⚠ 4.1/C1 Aquatic Chronic 1 H410

9 ppm sodium hydroxide; caustic soda

REACH No.: 01-2119457892-27, Index number: 011-002-00-6, CAS: 1310-73-2, EC: 215-185-5

⚠ 2.16/1 Met. Corr. 1 H290

⚠ 3.2/1A Skin Corr. 1A H314

⚠ 3.3/1 Eye Dam. 1 H318

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24 ppb 5-methylheptan-3-one

Index number: 606-020-00-1, CAS: 541-85-5, EC: 208-793-7

⚠ 2.6/3 Flam. Liq. 3 H226

⚠ 3.3/2 Eye Irrit. 2 H319

⚠ 3.8/3 STOT SE 3 H335

Specific Concentration Limits:

C >= 10%: STOT SE 3 H335

Acute Toxicity Estimate:

<1 ppb pentyl acetate

Index number: 607-130-00-2, CAS: 628-63-7, EC: 211-047-3

⚠ 2.6/3 Flam. Liq. 3 H226

*DECLK (CLP): Substance classified in accordance with Note K, Annex VI of EC Regulation (EC) 1272/2008. The classification as a carcinogen or mutagen need not apply if it can be shown that the substance contains less than 0,1 % w/w 1,3-butadiene (Einecs No 203-450-8). If the substance is not classified as a carcinogen or mutagen, at least the precautionary statements (P102-)P210-P403 should apply. This note applies only to certain complex oil-derived substances in Part 3.

SECTION 4: First aid measures

4.1. Description of first aid measures

In case of skin contact:

Wash with plenty of water and soap.

In case of eyes contact:

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

In case of Ingestion:

Do not under any circumstances induce vomiting. OBTAIN A MEDICAL EXAMINATION IMMEDIATELY.

In case of Inhalation:

Remove casualty to fresh air and keep warm and at rest.

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

None

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

Treatment:

None

SECTION 5: Firefighting measures

5.1. Extinguishing media

Appropriate Extinguishing Media:

To carbon dioxide.

To dust.

Foam for alcohols

Water spray.

Not Recommended Extinguishing Media:

Do not use direct water jets.

5.2. Special hazards arising from the substance or mixture

Do not inhale explosion and combustion gases.

Burning produces heavy smoke.

5.3. Advice for firefighters



Use suitable breathing apparatus .

Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

Move undamaged containers from immediate hazard area if it can be done safely.

SECTION 6: Accidental release measures

- 6.1. Personal precautions, protective equipment and emergency procedures
 - Wear personal protection equipment.
 - Remove all sources of ignition.
 - Remove persons to safety.
 - See protective measures under point 7 and 8.
- 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.
 - Suitable material for taking up: absorbing material, organic, sand
- 6.3. Methods and material for containment and cleaning up
 - Wash with plenty of water.
- 6.4. Reference to other sections
 - See also section 8 and 13

SECTION 7: Handling and storage

- 7.1. Precautions for safe handling
 - Avoid contact with skin and eyes, inhalation of vapours and mists.
 - Don't use empty container before they have been cleaned.
 - Before making transfer operations, assure that there aren't any incompatible material residuals in the containers.
 - See also section 8 for recommended protective equipment.
 - Advice on general occupational hygiene:
 - Contaminated clothing should be changed before entering eating areas.
 - Do not eat or drink while working.
- 7.2. Conditions for safe storage, including any incompatibilities
 - Store at below 50 °C. Keep away from unguarded flame and heat sources. Avoid direct exposure to sunlight.
 - Keep away from unguarded flame, sparks, and heat sources. Avoid direct exposure to sunlight.
 - Keep away from food, drink and feed.
 - None in particular.
 - Instructions as regards storage premises:
 - Cool and adequately ventilated.
- 7.3. Specific end use(s)
 - None in particular

SECTION 8: Exposure controls/personal protection

- 8.1. Control parameters
 - Hydrocarbons, C3-4; Petroleum gas - CAS: 68476-40-4
 - MAK - TWA: 2400 mg/m³, 1000 ppm
 - TLV TWA - 1900 mg/m³, 800 ppm
 - propan-2-ol - CAS: 67-63-0
 - ACGIH - TWA(8h): 200 ppm - STEL: 400 ppm - Notes: A4, BEI - Eye and URT irr, CNS impair
 - sodium hydroxide; caustic soda - CAS: 1310-73-2
 - 20101.10 - TWA: 2 mg/m³
 - ACGIH - STEL: Ceiling 2 mg/m³ - Notes: URT, eye, and skin irr
 - 5-methylheptan-3-one - CAS: 541-85-5
 - EU - TWA(8h): 53 mg/m³, 10 ppm - STEL: 107 mg/m³, 20 ppm

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ACGIH - TWA(8h): 10 ppm - Notes: Neurotoxicity
pentyl acetate - CAS: 628-63-7
EU - TWA(8h): 270 mg/m³, 50 ppm - STEL: 540 mg/m³, 100 ppm
ACGIH - TWA(8h): 50 ppm - STEL: 100 ppm - Notes: URT irr

DNEL Exposure Limit Values
didecyldimethylammonium chloride - CAS: 7173-51-5
Worker Professional: 18.2 mg/m³ - Exposure: Human Inhalation - Frequency: Long Term, systemic effects
Worker Professional: 8.6 mg/kg - Exposure: Human Dermal - Frequency: Long Term, systemic effects
propan-2-ol - CAS: 67-63-0
Worker Professional: 888 mg/kg - Consumer: 319 mg/kg - Exposure: Human Dermal - Frequency: Long Term, systemic effects
Worker Professional: 500 mg/m³ - Consumer: 89 mg/m³ - Exposure: Human Inhalation - Frequency: Long Term, systemic effects
Consumer: 26 mg/kg - Exposure: Human Oral - Frequency: Long Term, systemic effects
sodium hydroxide; caustic soda - CAS: 1310-73-2
Worker Professional: 1 mg/m³ - Consumer: 1 mg/m³ - Exposure: Human Inhalation - Frequency: Long Term, systemic effects

PNEC Exposure Limit Values
didecyldimethylammonium chloride - CAS: 7173-51-5
Target: Fresh Water - Value: 0.0011 mg/l
Target: Marine water - Value: 0.00011 mg/l
Target: Freshwater sediments - Value: 61.86 mg/kg
Target: Marine water sediments - Value: 6.186 mg/kg
Target: 09 - Value: 0.595 mg/l
propan-2-ol - CAS: 67-63-0
Target: Fresh Water - Value: 140.9 mg/l
Target: Marine water - Value: 140.9 mg/l
Target: Freshwater sediments - Value: 552 mg/kg
Target: Marine water sediments - Value: 552 mg/kg
Target: 09 - Value: 2251 mg/l

8.2. Exposure controls
Eye protection:
Safety goggles.
Compliant with EN 166
Protection for skin:
No special precaution must be adopted for normal use.
Protection for hands:
Nitrile or Viton gloves.
Compliant with EN 374.
Respiratory protection:
Not needed for normal use.
Thermal Hazards:
None
Environmental exposure controls:
None
Appropriate engineering controls:
None

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

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Properties	Value	Method:	Notes:
Physical state:	Liquid	--	--
Colour:	colourless	--	--
Odour:	Characteristic	--	--
Melting point/freezing point:	N.A.	--	--
Boiling point or initial boiling point and boiling range:	N.A.	--	--
Flammability:	N.A.	--	--
Lower and upper explosion limit:	N.A.	--	--
Flash point:	N.A.	--	--
Auto-ignition temperature:	N.A.	--	--
Decomposition temperature:	N.A.	--	--
pH:	8	--	--
Kinematic viscosity:	N.A.	--	--
Solubility in water:	N.A.	--	--
Solubility in oil:	N.A.	--	--
Partition coefficient n-octanol/water (log value):	N.A.	--	--
Vapour pressure:	N.A.	--	--
Density and/or relative density:	1 g/cm ³	--	--
Relative vapour density:	N.A.	--	--
Particle characteristics:			
Particle size:	N.A.	--	--

9.2. Other information
No other relevant information

SECTION 10: Stability and reactivity

- 10.1. Reactivity
Stable under normal conditions
- 10.2. Chemical stability
Stable under normal conditions

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10.3. Possibility of hazardous reactions

It may generate flammable gases on contact with dithiocarbamates, mercaptans and other organic sulphides, elementary metals (alkalis, alkaline earth, powder alloys, vapours), and powerful reducing agents.

It may generate toxic gases on contact with inorganic fluorides, halogenated organic substances, sulphides, nitrides, nitriles, organophosphates, and powerful oxidising agents.

It may catch fire on contact with dithiocarbamates, elementary metals (alkali, alkaline earth, powder alloys, vapours, sheets or bars), and nitrides.

10.4. Conditions to avoid

Stable under normal conditions.

10.5. Incompatible materials

Avoid contact with combustible materials. The product could catch fire.

10.6. Hazardous decomposition products

None.

SECTION 11: Toxicological information

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

Toxicological information of the product:

PURI CLIMA SPRAY ML 350

a) acute toxicity

Not classified

Based on available data, the classification criteria are not met

b) skin corrosion/irritation

Not classified

Based on available data, the classification criteria are not met

c) serious eye damage/irritation

Not classified

Based on available data, the classification criteria are not met

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

Not classified

Based on available data, the classification criteria are not met

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:

didecyldimethylammonium chloride - CAS: 7173-51-5

a) acute toxicity:

Test: LD50 - Route: Oral - Species: Rat > 300-2000 mg/kg

b) skin corrosion/irritation:

Test: OECD TG 404 - Route: Skin - Species: Rabbit Positive

d) respiratory or skin sensitisation:

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- Test: OECD TG 406 - Route: Inhalation - Species: IND Negative
- e) germ cell mutagenicity:
Test: oecd - Species: vitro Negative
Test: oecd 1 - Species: vitro Negative
Test: oecd 2 - Species: vitro Negative
- propan-2-ol - CAS: 67-63-0
- a) acute toxicity:
Test: LD50 - Route: Oral - Species: Rat = 5840 mg/kg
Test: LC50 - Route: Inhalation - Species: Rat > 10000 Ppm - Duration: 6h
Test: LD50 - Route: Skin - Species: Rabbit 12800 mg/kg
- b) skin corrosion/irritation:
Test: Skin Irritant - Route: Skin - Species: Rabbit Negative - Duration: 4h
- c) serious eye damage/irritation:
Test: OECD TG 405 - Route: EYE - Species: Rabbit Positive
- d) respiratory or skin sensitisation:
Test: OECD TG 406 - Route: Inhalation - Species: IND Negative
- e) germ cell mutagenicity:
Test: oecd - Species: vitro Negative
- CAS: 68424-85-1
- a) acute toxicity:
Test: LD50 - Route: Oral - Species: Rat 426 mg/kg
Test: LD50 - Route: Skin - Species: Rat 400-2000 mg/kg

11.2. Information on other hazards

Endocrine disrupting properties:

No endocrine disruptor substances present in concentration $\geq 0.1\%$

SECTION 12: Ecological information

12.1. Toxicity

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

Hydrocarbons, C3-4; Petroleum gas - CAS: 68476-40-4

a) Aquatic acute toxicity:

Endpoint: LC50 - Species: Daphnia = 14.22 mg/l - Duration h: 48

didecyldimethylammonium chloride - CAS: 7173-51-5

a) Aquatic acute toxicity:

Endpoint: LC50 - Species: Fish > 0.1-1 mg/l - Duration h: 96

Endpoint: EC50 - Species: Daphnia > 0.01-0.1 mg/l - Duration h: 48

Endpoint: EC50 - Species: Algae > 0.01-0.1 mg/l - Duration h: 72

Endpoint: NOEC - Species: Algae > 0.01-0.1 mg/l - Duration h: 72

b) Aquatic chronic toxicity:

Endpoint: NOEC - Species: Daphnia > 0.01-0.1 mg/l - Duration h: 504

propan-2-ol - CAS: 67-63-0

a) Aquatic acute toxicity:

Endpoint: LC50 - Species: Fish 1400 mg/l - Duration h: 96

Endpoint: EC50 - Species: Daphnia 2285 mg/l - Duration h: 48

- CAS: 68424-85-1

a) Aquatic acute toxicity:

Endpoint: EC50 - Species: Algae 670 µg/l - Duration h: 96

Endpoint: EC50 - Species: Daphnia 5.9 ppb - Duration h: 48

Endpoint: LC50 - Species: Fish 0.28 Ppm - Duration h: 96

b) Aquatic chronic toxicity:

Endpoint: NOEC - Species: Daphnia 0.025 mg/l - Duration h: 504

sodium hydroxide; caustic soda - CAS: 1310-73-2

a) Aquatic acute toxicity:

Endpoint: EC50 - Species: Daphnia 40.4 mg/l - Duration h: 48

12.2. Persistence and degradability

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None

didecyldimethylammonium chloride - CAS: 7173-51-5

Biodegradability: Readily biodegradable - Test: BIOGDG08

propan-2-ol - CAS: 67-63-0

Biodegradability: Readily biodegradable

- CAS: 68424-85-1

Biodegradability: Readily biodegradable - Test: BIOGDG08 - Duration: 28gg - %: 61

12.3. Bioaccumulative potential

didecyldimethylammonium chloride - CAS: 7173-51-5

Bioaccumulation: Not bioaccumulative - Test: BCF - Bioconcentration factor 2.1

12.4. Mobility in soil

N.A.

12.5. Results of PBT and vPvB assessment

vPvB Substances: None - PBT Substances: None

12.6. Endocrine disrupting properties

No endocrine disruptor substances present in concentration $\geq 0.1\%$

12.7. 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.

Additional disposal information:

Reuse if possible. Act in accordance with the local and national laws in force.

SECTION 14: Transport information



14.1. UN number or ID number

ADR-UN Number: 1950

IATA-UN Number: 1950

IMDG-UN Number: 1950

14.2. UN proper shipping name

ADR-Shipping Name: AEROSOLS, flammable

IATA-Shipping Name: AEROSOLS, flammable

IMDG-Shipping Name: AEROSOLS, flammable

14.3. Transport hazard class(es)

ADR-Class: 2

ADR - Hazard identification number: -

IATA-Class: 2

IATA-Label: 2.1

IMDG-Class: 2

Sea (IMO): 2

14.4. Packing group

ADR-Packing Group: -

IATA-Packing group: -

IMDG-Packing group: -

14.5. Environmental hazards

ADR-Environmental Pollutant: No

IMDG-Marine pollutant: No

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IMDG-EmS: F-D,
S-U

- 14.6. Special precautions for user
- | | |
|---|-----------------|
| ADR-Subsidiary hazards: | See SP63 |
| ADR-S.P.: | 190 327 344 625 |
| ADR-Transport category (Tunnel restriction code): | 2 (D) |
| IATA-Passenger Aircraft: | 203 |
| IATA-Subsidiary hazards: | See SP63 |
| IATA-Cargo Aircraft: | 203 |
| IATA-S.P.: | A145 A167 A802 |
| IATA-ERG: | 10L |
| IMDG-Subsidiary hazards: | See SP63 |
| IMDG-Stowage and handling: | SW1 SW22 |
| IMDG-Segregation: | SG69 |
- 14.7. Maritime transport in bulk according to IMO instruments
- No
- Limited Quantity: 1 L
- Exempted Quantity: E0

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) n. 2020/878
- 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)
- Regulation (EU) n. 2019/521 (ATP 12 CLP)
- Restrictions related to the product or the substances contained according to Annex XVII Regulation (EC) 1907/2006 (REACH) and subsequent modifications:
- Restrictions related to the product:
- Restriction 3
- Restriction 40
- Restrictions related to the substances contained:
- No restriction.
- Volatile Organic compounds - VOCs = 4.51 %
- Volatile Organic compounds - VOCs = 45.15 g/Kg
- Volatile Organic compounds - VOCs = 45.15 g/l
- 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)

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

Seveso III category according to Annex 1, part 1

Product belongs to category: P3a

15.2. Chemical safety assessment

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

Substances for which a Chemical Safety Assessment has been carried out:

None

SECTION 16: Other information

Text of phrases referred to under heading 3:

H220 Extremely flammable gas.

H280 Contains gas under pressure; may explode if heated.

H301 Toxic if swallowed.

H314 Causes severe skin burns and eye damage.

H318 Causes serious eye damage.

H400 Very toxic to aquatic life.

H411 Toxic to aquatic life with long lasting effects.

H225 Highly flammable liquid and vapour.

H319 Causes serious eye irritation.

H336 May cause drowsiness or dizziness.

H290 May be corrosive to metals.

H302 Harmful if swallowed.

H410 Very toxic to aquatic life with long lasting effects.

H226 Flammable liquid and vapour.

H335 May cause respiratory irritation.

Hazard class and hazard category	Code	Description
Met. Corr. 1	2.16/1	Substance or mixture corrosive to metals, Category 1
Flam. Gas 1A	2.2/1A	Flammable gas, Category 1A
Aerosols 1	2.3/1	Aerosol, Category 1
Press Gas (Liq.)	2.5/L	Gases under pressure (Liquefied gas)
Flam. Liq. 2	2.6/2	Flammable liquid, Category 2
Flam. Liq. 3	2.6/3	Flammable liquid, Category 3
Acute Tox. 3	3.1/3/Oral	Acute toxicity (oral), Category 3
Acute Tox. 4	3.1/4/Oral	Acute toxicity (oral), Category 4
Skin Corr. 1A	3.2/1A	Skin corrosion, Category 1A
Skin Corr. 1B	3.2/1B	Skin corrosion, Category 1B
Eye Dam. 1	3.3/1	Serious eye damage, Category 1
Eye Irrit. 2	3.3/2	Eye irritation, Category 2
STOT SE 3	3.8/3	Specific target organ toxicity - single exposure, Category 3

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Aquatic Acute 1	4.1/A1	Acute aquatic hazard, category 1
Aquatic Chronic 1	4.1/C1	Chronic (long term) aquatic hazard, category 1
Aquatic Chronic 2	4.1/C2	Chronic (long term) aquatic hazard, category 2

Paragraphs modified from the previous revision:

SECTION 2: Hazards identification
 SECTION 3: Composition/information on ingredients
 SECTION 9: Physical and chemical properties
 SECTION 11: Toxicological information
 SECTION 12: Ecological information
 SECTION 14: Transport information
 SECTION 15: Regulatory information

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

This document was prepared by a competent person who has received appropriate training.

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 "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.

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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.
NA:	Not applicable
PNEC:	Predicted No Effect Concentration.
RID:	Regulation Concerning the International Transport of Dangerous Goods by Rail.
STEL:	Short Term Exposure limit.
STOT:	Specific Target Organ Toxicity.
TLV:	Threshold Limiting Value.
TWA:	Time-weighted average
WGK:	German Water Hazard Class.

Exposure Scenario, 17/07/2019

Substance identity	
Chemical name	IDROCARBURI C3-C4, Miscela (propano, butano, isobutano < 0,1% 1,3-Butadiene)
CAS No.	68476-40-4
EINECS No.	270-681-9

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1. **ES 1** Use at industrial site

1. ES 1 Use at industrial site	
1.1 TITLE SECTION	
Exposure Scenario name	Use as a propellant
Date - Version	17/07/2019 - 1.0
Life Cycle Stage	Use at industrial site
Main user group	Industrial uses
Sector(s) of use	Industrial uses (SU3)
Environment Contributing Scenario	
CS1 Covered by	ERC4
Worker Contributing Scenario	
CS2 Propellant	PROC1 - PROC2 - PROC3 - PROC8b - PROC9 - PROC12
1.2 Conditions of use affecting exposure	
1.2. CS1: Environment Contributing Scenario: Covered by (ERC4)	
Environmental release categories	Use of non-reactive processing aid at industrial site (no inclusion into or onto article) (ERC4)
1.2. CS2: Worker Contributing Scenario: Propellant (PROC1, PROC2, PROC3, PROC8b, PROC9, PROC12)	
Process Categories	Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions - Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions - Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition - Transfer of substance or mixture (charging and discharging) at dedicated facilities - Transfer of substance or mixture into small containers (dedicated filling line, including weighing) - Use of blowing agents in manufacture of foam (PROC1, PROC2, PROC3, PROC8b, PROC9, PROC12)
Product (article) characteristics	
Physical form of product: Liquid	
Vapour pressure: > 10 kPa	
Concentration of substance in product: Covers percentage substance in the product up to 100 %.	
Amount used, frequency and duration of use/exposure	
Duration: Covers daily exposures up to 8 hours	
Technical and organisational conditions and measures	
Technical and organisational measures Keep drains in watertight containers while awaiting dismantling or subsequent recycling Use in contained systems Ensure operatives are trained to minimise exposures. Ensure that direct skin contact is avoided. Clear transfer lines prior to de-coupling. Provide a good standard of controlled ventilation (10 to 15 air changes per hour). Drain down and flush system prior to equipment break-in or maintenance.	
Conditions and measures related to personal protection, hygiene and health evaluation	

Personal protection

Wear suitable respiratory protection.

Other conditions affecting worker exposure

Temperature: Assumes use at not more than 20 °C above ambient temperature.

1.3 Exposure estimation and reference to its source

N/A

1.4 Guidance to DU to evaluate whether he works inside the boundaries set by the ES**Guidance to check compliance with the exposure scenario:**

Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Exposure Scenario, 16/07/2019

Substance identity	
Chemical name	ALCOOL ISOPROPILICO; PROPAN-2-OLO
CAS No.	67-63-0
EINECS No.	200-661-7

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1. **ES 1** Use at industrial site
2. **ES 2** Use at industrial site
3. **ES 3** Widespread use by professional workers
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5. **ES 5** Widespread use by professional workers
6. **ES 6** Consumer use; Various products (PC9b, PC9a, PC1, PC4, PC8)
7. **ES 7** Consumer use; Various products (PC3, PC4, PC8, PC24, PC35)
8. **ES 8** Consumer use; Anti-freeze and de-icing products (PC4)

1. ES 1 Use at industrial site	
1.1 TITLE SECTION	
Exposure Scenario name	Use in cleaning agents
Date - Version	16/07/2019 - 1.0
Life Cycle Stage	Use at industrial site
Main user group	Industrial uses
Sector(s) of use	Industrial uses (SU3)
Environment Contributing Scenario	
CS1 Solvent-based process	ERC4
Worker Contributing Scenario	
CS2 Industrial	PROC1 - PROC2 - PROC3 - PROC4 - PROC7 - PROC8a - PROC8b - PROC10 - PROC13
1.2 Conditions of use affecting exposure	
1.2. CS1: Environment Contributing Scenario: Solvent-based process (ERC4)	
Environmental release categories	Use of non-reactive processing aid at industrial site (no inclusion into or onto article) (ERC4)
1.2. CS2: Worker Contributing Scenario: Industrial (PROC1, PROC2, PROC3, PROC4, PROC7, PROC8a, PROC8b, PROC10, PROC13)	
Process Categories	Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions - Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions - Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition - Chemical production where opportunity for exposure arises - Industrial spraying - Transfer of substance or mixture (charging and discharging) at non-dedicated facilities - Transfer of substance or mixture (charging and discharging) at dedicated facilities - Roller application or brushing - Treatment of articles by dipping and pouring (PROC1, PROC2, PROC3, PROC4, PROC7, PROC8a, PROC8b, PROC10, PROC13)
Product (article) characteristics	
Physical form of product: Liquid, vapour pressure 0,5 - 10 kPa at STP	
Concentration of substance in product: Covers percentage substance in the product up to 100 %.	
Amount used, frequency and duration of use/exposure	
Duration: Covers daily exposures up to 8 hours	
Technical and organisational conditions and measures	
Technical and organisational measures Keep drains in watertight containers while awaiting dismantling or subsequent recycling Ensure that direct skin contact is avoided. Provide a good standard of controlled ventilation (10 to 15 air changes per hour). Drain down system prior to equipment break-in or maintenance.	
Conditions and measures related to personal protection, hygiene and health evaluation	
Personal protection Use suitable eye protection.	
Other conditions affecting worker exposure	

Temperature: Assumes use at not more than 20 °C above ambient temperature.

1.3 Exposure estimation and reference to its source

N/A

1.4 Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Guidance to check compliance with the exposure scenario:

Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

2. ES 2 Use at industrial site

2.1 TITLE SECTION

Exposure Scenario name	Use in coatings
Date - Version	16/07/2019 - 1.0
Life Cycle Stage	Use at industrial site
Main user group	Industrial uses
Sector(s) of use	Industrial uses (SU3)

Environment Contributing Scenario

CS1 Solvent-based process	ERC4
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Worker Contributing Scenario

CS2 Industrial	PROC5 - PROC1 - PROC2 - PROC3 - PROC4 - PROC7 - PROC8a - PROC8b - PROC10 - PROC13 - PROC15
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2.2 Conditions of use affecting exposure

2.2. CS1: Environment Contributing Scenario: Solvent-based process (ERC4)

Environmental release categories	Use of non-reactive processing aid at industrial site (no inclusion into or onto article) (ERC4)
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2.2. CS2: Worker Contributing Scenario: Industrial (PROC5, PROC1, PROC2, PROC3, PROC4, PROC7, PROC8a, PROC8b, PROC10, PROC13, PROC15)

Process Categories	Mixing or blending in batch processes - Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions - Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions - Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition - Chemical production where opportunity for exposure arises - Industrial spraying - Transfer of substance or mixture (charging and discharging) at non-dedicated facilities - Transfer of substance or mixture (charging and discharging) at dedicated facilities - Roller application or brushing - Treatment of articles by dipping and pouring - Use as laboratory reagent (PROC5, PROC1, PROC2, PROC3, PROC4, PROC7, PROC8a, PROC8b, PROC10, PROC13, PROC15)
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Product (article) characteristics

Physical form of product:

Liquid, vapour pressure 0,5 - 10 kPa at STP

Concentration of substance in product:

Covers percentage substance in the product up to 100 %.

Amount used, frequency and duration of use/exposure

Duration:

Covers daily exposures up to 8 hours

Technical and organisational conditions and measures

Technical and organisational measures

- Keep drains in watertight containers while awaiting dismantling or subsequent recycling
- Ensure that direct skin contact is avoided.
- Provide a good standard of controlled ventilation (10 to 15 air changes per hour).
- Carry out in a vented booth or extracted enclosure.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection

Use suitable eye protection.

Other conditions affecting worker exposure

Temperature: Assumes use at not more than 20 °C above ambient temperature.

2.3 Exposure estimation and reference to its source

N/A

2.4 Guidance to DU to evaluate whether he works inside the boundaries set by the ES**Guidance to check compliance with the exposure scenario:**

Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

3. ES 3 Widespread use by professional workers

3.1 TITLE SECTION

Exposure Scenario name	Use in coatings
Date - Version	16/07/2019 - 1.0
Life Cycle Stage	Widespread use by professional workers
Main user group	Professional uses
Sector(s) of use	Professional uses (SU22)

Environment Contributing Scenario

CS1 Solvent-based process	ERC8a - ERC8d
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Worker Contributing Scenario

CS2 General use from professional operators	PROC5 - PROC1 - PROC2 - PROC3 - PROC4 - PROC8a - PROC8b - PROC10 - PROC11 - PROC13 - PROC15 - PROC19
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3.2 Conditions of use affecting exposure

3.2. CS1: Environment Contributing Scenario: Solvent-based process (ERC8a, ERC8d)

Environmental release categories	Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) - Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor) (ERC8a, ERC8d)
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3.2. CS2: Worker Contributing Scenario: General use from professional operators (PROC5, PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC10, PROC11, PROC13, PROC15, PROC19)

Process Categories	Mixing or blending in batch processes - Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions - Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions - Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition - Chemical production where opportunity for exposure arises - Transfer of substance or mixture (charging and discharging) at non-dedicated facilities - Transfer of substance or mixture (charging and discharging) at dedicated facilities - Roller application or brushing - Non industrial spraying - Treatment of articles by dipping and pouring - Use as laboratory reagent - Manual activities involving hand contact (PROC5, PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC10, PROC11, PROC13, PROC15, PROC19)
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Product (article) characteristics

Physical form of product:

Liquid, vapour pressure 0,5 - 10 kPa at STP

Concentration of substance in product:

Covers percentage substance in the product up to 100 %.

Amount used, frequency and duration of use/exposure

Duration:

Covers daily exposures up to 8 hours

Technical and organisational conditions and measures

Technical and organisational measures

Ensure that direct skin contact is avoided.
Carry out in a vented booth or extracted enclosure.
Store substance within a closed system.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection

Use suitable eye protection.

Wear a respirator conforming to EN140.

3.3 Exposure estimation and reference to its source

N/A

3.4 Guidance to DU to evaluate whether he works inside the boundaries set by the ES**Guidance to check compliance with the exposure scenario:**

Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

4. ES 4 Widespread use by professional workers

4.1 TITLE SECTION

Exposure Scenario name	Use in cleaning agents
Date - Version	16/07/2019 - 1.0
Life Cycle Stage	Widespread use by professional workers
Main user group	Professional uses
Sector(s) of use	Professional uses (SU22)

Environment Contributing Scenario

CS1 Solvent-based process	ERC8a - ERC8d
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Worker Contributing Scenario

CS2 General use from professional operators	PROC1 - PROC2 - PROC3 - PROC4 - PROC8a - PROC8b - PROC10 - PROC11 - PROC13 - PROC15
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4.2 Conditions of use affecting exposure

4.2. CS1: Environment Contributing Scenario: Solvent-based process (ERC8a, ERC8d)

Environmental release categories	Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) - Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor) (ERC8a, ERC8d)
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4.2. CS2: Worker Contributing Scenario: General use from professional operators (PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC10, PROC11, PROC13, PROC15)

Process Categories	Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions - Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions - Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition - Chemical production where opportunity for exposure arises - Transfer of substance or mixture (charging and discharging) at non-dedicated facilities - Transfer of substance or mixture (charging and discharging) at dedicated facilities - Roller application or brushing - Non industrial spraying - Treatment of articles by dipping and pouring - Use as laboratory reagent (PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC10, PROC11, PROC13, PROC15)
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Product (article) characteristics

Physical form of product:

Liquid, vapour pressure 0,5 - 10 kPa at STP

Concentration of substance in product:

Covers percentage substance in the product up to 100 %.

Amount used, frequency and duration of use/exposure

Duration:

Covers daily exposures up to 8 hours

Technical and organisational conditions and measures

Technical and organisational measures

- Ensure that direct skin contact is avoided.
- Avoid carrying out activities involving exposure for more than 15 minutes per day.
- Provide a good standard of controlled ventilation (10 to 15 air changes per hour).
- Store substance within a closed system.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection

Use suitable eye protection.

Other conditions affecting worker exposure

Temperature: Assumes use at not more than 20 °C above ambient temperature.

4.3 Exposure estimation and reference to its source

N/A

4.4 Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Guidance to check compliance with the exposure scenario:

Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

5. ES 5 Widespread use by professional workers

5.1 TITLE SECTION

Exposure Scenario name	De-icing and anti-icing applications
Date - Version	16/07/2019 - 1.0
Life Cycle Stage	Widespread use by professional workers
Main user group	Professional uses
Sector(s) of use	Professional uses (SU22)

Environment Contributing Scenario

CS1 Solvent-based process	ERC8d
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Worker Contributing Scenario

CS2 General use from professional operators	PROC1 - PROC2 - PROC8a - PROC8b - PROC11
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5.2 Conditions of use affecting exposure

5.2. CS1: Environment Contributing Scenario: Solvent-based process (ERC8d)

Environmental release categories	Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor) (ERC8d)
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5.2. CS2: Worker Contributing Scenario: General use from professional operators (PROC1, PROC2, PROC8a, PROC8b, PROC11)

Process Categories	Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions - Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions - Transfer of substance or mixture (charging and discharging) at non-dedicated facilities - Transfer of substance or mixture (charging and discharging) at dedicated facilities - Non industrial spraying (PROC1, PROC2, PROC8a, PROC8b, PROC11)
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Product (article) characteristics

Physical form of product:

Liquid, vapour pressure 0,5 - 10 kPa at STP

Concentration of substance in product:

Covers percentage substance in the product up to 100 %.

Amount used, frequency and duration of use/exposure

Duration:

Covers daily exposures up to 8 hours

Technical and organisational conditions and measures

Technical and organisational measures

Ensure that direct skin contact is avoided.
Avoid carrying out activities involving exposure for more than 1 hour per day.
Clear transfer lines prior to de-coupling.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection

Use suitable eye protection.

Other conditions affecting worker exposure

Temperature: Assumes use at not more than 20 °C above ambient temperature.

5.3 Exposure estimation and reference to its source

N/A

5.4 Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Guidance to check compliance with the exposure scenario:

Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

6. ES 6 Consumer use; Various products (PC9b, PC9a, PC1, PC4, PC8)

6.1 TITLE SECTION

Exposure Scenario name	Use in coatings
Date - Version	16/07/2019 - 1.0
Life Cycle Stage	Consumer use
Main user group	Consumer uses
Sector(s) of use	Consumer uses (SU21)
Product Categories	Fillers, putties, plasters, modelling clay (PC9b) - Coatings and paints, thinners, paint removers (PC9a) - Adhesives, sealants (PC1) - Anti-freeze and de-icing products (PC4) - Biocidal products (PC8) - Non-metal surface treatment products (PC15) - Ink and toners (PC18) - Lubricants, greases, release products (PC24) - Polishes and wax blends (PC31) - Textile dyes and impregnating products (PC34)

Environment Contributing Scenario

CS1 Solvent-based process	ERC8a - ERC8d
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Consumer Contributing Scenario

CS2 Use in coatings	PC9b - PC9a - PC1 - PC4 - PC8 - PC15 - PC18 - PC24 - PC31 - PC34
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6.2 Conditions of use affecting exposure

6.2. CS1: Environment Contributing Scenario: Solvent-based process (ERC8a, ERC8d)

Environmental release categories	Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) - Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor) (ERC8a, ERC8d)
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6.2. CS2: Consumer Contributing Scenario: Use in coatings (PC9b, PC9a, PC1, PC4, PC8, PC15, PC18, PC24, PC31, PC34)

Product Categories	Fillers, putties, plasters, modelling clay - Coatings and paints, thinners, paint removers - Adhesives, sealants - Anti-freeze and de-icing products - Biocidal products - Non-metal surface treatment products - Ink and toners - Lubricants, greases, release products - Polishes and wax blends - Textile dyes and impregnating products (PC9b, PC9a, PC1, PC4, PC8, PC15, PC18, PC24, PC31, PC34)
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Product (article) characteristics

Physical form of product:

Liquid, vapour pressure > 10 kPa at STP

Concentration of substance in product:

Covers concentrations up to 50 %

Additional conditions human health

Covers skin contact area up to 430 cm²

Amount used, frequency and duration of use/exposure

Amounts used:

Amount per use 10 g

Frequency:

Covers exposure up to 1 events per day

Frequency:

Covers frequency up to: 365 days per year

Other conditions affecting consumers exposure

Room size: Covers use in a one car garage (>34 m³) under typical ventilation.

Temperature: Covers use at ambient temperatures.

6.3 Exposure estimation and reference to its source

N/A

6.4 Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Guidance to check compliance with the exposure scenario:

Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

7. ES 7 Consumer use; Various products (PC3, PC4, PC8, PC24, PC35)	
7.1 TITLE SECTION	
Exposure Scenario name	Use in cleaning agents
Date - Version	16/07/2019 - 1.0
Life Cycle Stage	Consumer use
Main user group	Consumer uses
Sector(s) of use	Consumer uses (SU21)
Product Categories	Air care products (PC3) - Anti-freeze and de-icing products (PC4) - Biocidal products (PC8) - Lubricants, greases, release products (PC24) - Washing and cleaning products (PC35) - Welding and soldering products, flux products (PC38)
Environment Contributing Scenario	
CS1 Solvent-based process	ERC8a - ERC8d
Consumer Contributing Scenario	
CS2 Detergent liquids	PC9a - PC3 - PC4 - PC8 - PC24 - PC35 - PC38
7.2 Conditions of use affecting exposure	
7.2. CS1: Environment Contributing Scenario: Solvent-based process (ERC8a, ERC8d)	
Environmental release categories	Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) - Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor) (ERC8a, ERC8d)
7.2. CS2: Consumer Contributing Scenario: Detergent liquids (PC9a, PC3, PC4, PC8, PC24, PC35, PC38)	
Product Categories	Coatings and paints, thinners, paint removers - Air care products - Anti-freeze and de-icing products - Biocidal products - Lubricants, greases, release products - Washing and cleaning products - Welding and soldering products, flux products (PC9a, PC3, PC4, PC8, PC24, PC35, PC38)
<i>Product (article) characteristics</i>	
Physical form of product: Liquid, vapour pressure > 10 kPa at STP	
Concentration of substance in product: Covers concentrations up to 50 %	
<i>Amount used, frequency and duration of use/exposure</i>	
Amounts used: Amount per use 100 g	
Frequency: Covers use up to 365 days per year	
Frequency: Covers use up to 1 uses per day	
<i>Other conditions affecting consumers exposure</i>	
Room size: Covers use in a one car garage (>34 m ³) under typical ventilation.	
Temperature: Covers use at ambient temperatures.	
Additional conditions human health Covers skin contact area up to 428 cm ²	

7.3 Exposure estimation and reference to its source

N/A

7.4 Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Guidance to check compliance with the exposure scenario:

Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

8. ES 8 Consumer use; Anti-freeze and de-icing products (PC4)

8.1 TITLE SECTION

Exposure Scenario name	De-icing and anti-icing applications
Date - Version	16/07/2019 - 1.0
Life Cycle Stage	Consumer use
Main user group	Consumer uses
Sector(s) of use	Consumer uses (SU21)
Product Categories	Anti-freeze and de-icing products (PC4)

Environment Contributing Scenario

CS1 Solvent-based process	ERC4
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Consumer Contributing Scenario

CS2 De-icing and anti-icing applications	PC24
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8.2 Conditions of use affecting exposure

8.2. CS1: Environment Contributing Scenario: Solvent-based process (ERC4)

Environmental release categories	Use of non-reactive processing aid at industrial site (no inclusion into or onto article) (ERC4)
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8.2. CS2: Consumer Contributing Scenario: De-icing and anti-icing applications (PC24)

Product Categories	Lubricants, greases, release products (PC24)
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Product (article) characteristics

Physical form of product:

Liquid, vapour pressure > 10 kPa at STP

Concentration of substance in product:

Covers concentrations up to 10 %

Amount used, frequency and duration of use/exposure

Amounts used:

Amount per use 2000 g

Duration:

Covers use up to 0.25 h/event

Frequency:

Covers exposure up to 365 days per year

Other conditions affecting consumers exposure

Room size: Covers use in a one car garage (>34 m³) under typical ventilation.

Temperature: Covers use at ambient temperatures.

Additional conditions human health

Covers skin contact area up to 428 cm²

8.3 Exposure estimation and reference to its source

N/A

8.4 Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Guidance to check compliance with the exposure scenario:

Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.