Safety Data Sheet
PULITORE SISTEMA DI ASPIRAZIONE - INTAKE SYSTEM CLEANER

Safety Data Sheet dated 21/10/2024, version 9

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

1.1. Product identifier

Mixture identification:

Trade name: PULITORE SISTEMA DI ASPIRAZIONE - INTAKE SYSTEM CLEANER

Trade code: 4137

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

Recommended use:

Carburettor cleaner

Uses advised against:

Strictly adhere to the recommended uses.

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: emergency number 112

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.

Warning, Acute Tox. 4, Harmful if inhaled.

Warning, Skin Irrit. 2, Causes skin irritation.

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

Warning, STOT SE 3, May cause respiratory irritation.

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

Warning, STOT RE 2, May cause damage to organs through prolonged or repeated exposure.

Aquatic Chronic 3, Harmful 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.
H332 Harmful if inhaled.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
H336 May cause drowsiness or dizziness.
H373 May cause damage to organs through prolonged or repeated exposure.
H412 Harmful to aquatic life with long lasting effects.

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.
P271 Use only outdoors or in a well-ventilated area.
P405 Store locked up.
P410+P412 Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122°F.
P501 Dispose of contents/container in accordance with applicable regulations.

Special Provisions:
PACK2 The packing must have tactive indications of danger for blind people.

Contains
Xylene (Benzene <0.01%)
butanone; ethyl methyl ketone
propan-2-ol; isopropyl alcohol; isopropanol
acetone; propan-2-one; propanone

Special provisions according to Annex XVII of REACH and subsequent amendments:
None

2.3. Other hazards
No PBT, vPvB or endocrine disruptor substances present in concentration >= 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:

stta	Name	Ident. Number	Classification
>= 40% - < 50%	Xylene (Benzene <0.01%)	CAS: 1330-20-7 EC: 215-535-7 REACH No.: 01-2119488216-32	2.6/3 Flam. Liq. 3 H226 4.1/C3 Aquatic Chronic 3 H412 3.1/4/Inhal Acute Tox. 4 H332 3.1/4/Dermal Acute Tox. 4 H312 3.3/2 Eye Irrit. 2 H319 3.8/3 STOT SE 3 H335 3.2/2 Skin Irrit. 2 H315 3.9/2 STOT RE 2 H373 (Inhalation) 3.10/1 Asp. Tox. 1 H304

>= 20% - < 25%	Hydrocarbons, C3-4; Petroleum gas	Index number: CAS: EC: REACH No.:	649-199-00-1 68476-40-4 270-681-9 01-2119486557-22	2.2/1A Flam. Gas 1A H220 2.5/L Press Gas (Liq.) H280 DECLK (CLP)*
>= 10% - < 12,5%	butanone; ethyl methyl ketone	Index number: CAS: EC: REACH No.:	606-002-00-3 78-93-3 201-159-0 01-2119457290-43	2.6/2 Flam. Liq. 2 H225 3.3/2 Eye Irrit. 2 H319 3.8/3 STOT SE 3 H336 EUH066
>= 10% - < 12,5%	propan-2-ol; isopropyl alcohol; isopropanol	Index number: CAS: EC: REACH No.:	603-117-00-0 67-63-0 200-661-7 01-2119457558-25	2.6/2 Flam. Liq. 2 H225 3.3/2 Eye Irrit. 2 H319 3.8/3 STOT SE 3 H336
>= 7% - < 10%	acetone; propan-2-one; propanone	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%	ethyl acetate	CAS: EC: REACH No.:	141-78-6 205-500-4 01-2119475103-46	2.6/2 Flam. Liq. 2 H225 3.3/2 Eye Irrit. 2 H319 3.8/3 STOT SE 3 H336

*DECLK (CLP): Substance classified in accordance with Note K, Annex VI of EC Regulation (EC) 1272/2008. The harmonised classification as a carcinogen or mutagen applies unless it can be shown that the substance contains less than 0,1 % w/w 1,3- butadiene (Einecs No 203-450-8), in which case a classification in accordance with Title II of this Regulation shall be performed also for those hazard classes. Where the substance is not classified as a carcinogen or mutagen, at least the precautionary statements (P102-)P210-P403 shall apply.

SECTION 4: First aid measures

4.1. Description of first aid measures

In case of skin contact:

Immediately take off all contaminated clothing.
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).
Remove contaminated clothing immediately and dispose off safely.
After contact with skin, wash immediately with soap and plenty of water.

In case of eyes contact:
After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an opthalmologist immediately.
Protect uninjured eye.
In case of Ingestion:
In case of ingestion: contact a physician.
In case of Inhalation:
If breathing is irregular or stopped, administer artificial respiration.
In case of inhalation, consult a doctor immediately and show the packing or label.

4.2. Most important symptoms and effects, both acute and delayed
In case of contact with eyes: rinse with plenty of running water. Contact a physician if the irritation persists.

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
Appropriate Extinguishing Media:
To carbon dioxide.
Foam for alcohols
Water spray.
To dust.
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
Normal fire-fighting clothing, such as an open-circuit compressed air breathing apparatus (EN 137), flame-resistant suit (EN469), flame-resistant gloves (EN 659) and firefighter's boots (HO A29 or A30).

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Wear personal protection equipment.
Remove all sources of ignition.
Wear breathing apparatus if exposed to vapours/dusts/aerosols.
Provide adequate ventilation.
Use appropriate respiratory protection.
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
For cleaning up:
Avoid flame and/or spark near leak and produced waste. Do not smoke. In case of large spills dike,
absorb and shovel up into suitable containers for disposal. Contain small spills with absorbent material.

Put dirty material in suitable container. Dispose of dirty material in accordance with local or national
regulations.

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.
Use localized ventilation system.
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:
Contamined 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 in well-closed containers, preferably in a cool place, away from sources of heat and direct sunlight.
Provide adequate ventilation/air extraction in work areas.
Only store in the original container.
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

Xylene (Benzene <0.01%) - CAS: 1330-20-7
EU - TWA(8h): 221 mg/m3, 50 ppm - STEL: 442 mg/m3, 100 ppm - Notes: Skin
ACGIH - TWA(8h): 20 ppm - Notes: A4, BEI - URT and eye irr; hematologic eff; CNS impair

Hydrocarbons, C3-4; Petroleum gas - CAS: 68476-40-4
MAK - TWA: 2400 mg/m3, 1000 ppm
TLV TWA - 1900 mg/m3, 800 ppm

butanone; ethyl methyl ketone - CAS: 78-93-3
20101.13 - TWA(8h): 600 mg/m3, 200 ppm - STEL(): 900 mg/m3, 300 ppm
20101.06 - TWA(8h): 600 mg/m3, 200 ppm - STEL(): 900 mg/m3, 300 ppm
EU - TWA(8h): 600 mg/m3, 200 ppm - STEL: 900 mg/m3, 300 ppm
ACGIH - TWA(8h): 200 ppm - STEL: 300 ppm - Notes: BEI - URT irr, CNS and PNS impair

propan-2-ol; isopropyl alcohol; isopropanol - CAS: 67-63-0
20101.11 - TWA: 983 mg/m3, 400 ppm
20101.12 - TWA: 492 mg/m3, 200 ppm
ACGIH - TWA(8h): 200 ppm - STEL: 400 ppm - Notes: A4, BEI - Eye and URT irr, CNS impair

acetone; propan-2-one; propanone - 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

ethyl acetate - CAS: 141-78-6

EU - TWA(8h): 734 mg/m3, 200 ppm - STEL: 1468 mg/m3, 400 ppm
ACGIH - TWA(8h): 400 ppm - Notes: URT and eye irr

DNEL Exposure Limit Values

Xylene (Benzene <0.01%) - CAS: 1330-20-7
- Worker Professional: 212 mg/kg - Consumer: 125 mg/kg - Exposure: Human Dermal - Frequency: Long Term (repeated)
- Worker Professional: 221 mg/m3 - Consumer: 65.3 mg/m3 - Exposure: Human Inhalation - Frequency: Long Term (repeated)
- Consumer: 12.5 mg/kg - Exposure: Human Oral - Frequency: Long Term (repeated)
- Worker Professional: 442 mg/kg - Exposure: Human Dermal - Frequency: Short Term (acute)

propan-2-ol; isopropyl alcohol; isopropanol - CAS: 67-63-0
- Worker Professional: 888 mg/kg - Consumer: 319 mg/kg - Exposure: Human Dermal - Frequency: Long Term (repeated)
- Worker Professional: 500 mg/m3 - Consumer: 89 mg/m3 - Exposure: Human Inhalation - Frequency: Long Term (repeated)
- Consumer: 26 mg/kg - Exposure: Human Oral - Frequency: Long Term (repeated)

acetone; propan-2-one; propanone - CAS: 67-64-1
- Worker Professional: 186 mg/kg - Consumer: 62 mg/kg - Exposure: Human Dermal - Frequency: Long Term, systemic effects
- Worker Professional: 2420 mg/m3 - Consumer: 62 mg/m3 - Exposure: Human Inhalation - Frequency: Long Term, local effects
- Worker Professional: 1210 mg/m3 - Consumer: 200 mg/m3 - Exposure: Human Inhalation - Frequency: Long Term, systemic effects

ethyl acetate - CAS: 141-78-6
- Worker Professional: 367 mg/m3 - Consumer: 367 mg/m3 - Exposure: Human Inhalation - Frequency: Long Term (repeated)
- Worker Professional: 1468 mg/m3 - Consumer: 734 mg/m3 - Exposure: Human Inhalation - Frequency: Short Term (acute)
- Consumer: 4.5 mg/kg - Exposure: Human Oral - Frequency: Long Term (repeated)
- Worker Professional: 63 mg/kg - Consumer: 37 mg/kg - Exposure: Human Dermal - Frequency: Long Term (repeated)

PNEC Exposure Limit Values

Xylene (Benzene <0.01%) - CAS: 1330-20-7
- Target: Fresh Water - Value: 0.32 mg/l
- Target: Marine water - Value: 0.32 mg/l
- Target: Freshwater sediments - Value: 12.46 mg/kg
- Target: Marine water sediments - Value: 12.46 mg/kg
- Target: 09 - Value: 6.58 mg/l

propan-2-ol; isopropyl alcohol; isopropanol - CAS: 67-63-0
- Target: Fresh Water - Value: 140.9 mg/l
- Target: Fresh Water - Value: 140.9 mg/l
- Target: Freshwater sediments - Value: 552 mg/l
- Target: Soil (agricultural) - Value: 28 mg/kg
- Target: Microorganisms in sewage treatments - Value: 2251 mg/l

acetone; propan-2-one; propanone - CAS: 67-64-1
- Target: Fresh Water - Value: 10.6 mg/l
- Target: Marine water - Value: 1.06 mg/l
- Target: Freshwater sediments - Value: 30.4 mg/kg
- Target: Soil (agricultural) - Value: 29.5 mg/kg
- Target: Marine water sediments - Value: 3.04 mg/kg

ethyl acetate - CAS: 141-78-6
- Target: Fresh Water - Value: 0.24 mg/l
- Target: Marine water - Value: 0.02 mg/l
- Target: Freshwater sediments - Value: 1.15 mg/kg
- Target: Marine water sediments - Value: 0.115 mg/kg
- Target: 09 - Value: 650 mg/l

8.2. Exposure controls

Eye protection:
Eye glasses with side protection.
Compliant with EN 166

Protection for skin:
protective clothing

Protection for hands:
Nitrile or Viton gloves.
Compliant with EN 374.
Thickness: Cuff 0.10 mm; Palm 0.12 mm; Fingers 0.145 mm

Respiratory protection:
Use a suitable respiratory protection device.

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

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:	55-143°C	ASTM D 1120	--
Flammability:	N.A.	--	--
Lower and upper explosion limit:	N.A.	--	--
Flash point:	-20°C	IP 170	--
Auto-ignition temperature:	N.A.	--	--
Decomposition temperature:	N.A.	--	--
pH:	N.A.	--	--
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:	0.837 g/cm3	ASTM D 4052-96	--
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 at normal ambient temperatures and when used as recommended.
10.3. Possibility of hazardous reactions
None
10.4. Conditions to avoid
Excessive heat.
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:
PULITORE SISTEMA DI ASPIRAZIONE E CARBURATORE SPRAY ML 500
a) acute toxicity
The product is classified: Acute Tox. 4 H332
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 H335;STOT SE 3 H336
i) STOT-repeated exposure
The product is classified: STOT RE 2 H373
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:

Xylene (Benzene <0.01%) - CAS: 1330-20-7
a) acute toxicity:
Test: LDLo - Route: Oral - Species: Rat 5627 mg/kg
Test: LD50 - Route: Skin - Species: Rabbit > 5000 mg/kg
Test: LC50 - Route: Inhalation - Species: Rat 6700 Ppm - Duration: 4h

butanone; ethyl methyl ketone - CAS: 78-93-3
a) acute toxicity:
Test: Respiratory Tract Corrosive - Route: Oral - Species: Rat 2737 mg/kg
Test: Respiratory Tract Corrosive - Route: Inhalation - Species: Rat 23.5 mg/l - Duration: 8h
b) skin corrosion/irritation:
Test: Eye Corrosive - Route: Skin - Species: Rabbit 6840 mg/kg

propan-2-ol; isopropyl alcohol; isopropanol - CAS: 67-63-0
a) acute toxicity:
Test: LD50 - Route: Oral - Species: Rat = 5840 mg/kg
Test: LD50 - Route: Skin - Species: Rabbit = 16.4 ml/kg
Test: LC50 - Route: Inhalation - Species: Rat > 10000 Ppm - Duration: 6h
g) reproductive toxicity:
Test: NOAEL(C) - Route: Oral - Species: Rabbit 480 mg/kg

acetone; propan-2-one; propanone - CAS: 67-64-1
a) acute toxicity:
Test: LD50 - Route: Oral - Species: Rat 5800 mg/kg
Test: LD50 - Route: Skin - Species: Rabbit > 7426 mg/kg
Test: LC50 - Route: Inhalation - Species: Rat 76 mg/l - Duration: 4h

ethyl acetate - CAS: 141-78-6
a) acute toxicity:
Test: LD50 - Route: Oral - Species: Rat 4934 mg/kg
Test: LD50 - Route: Skin - Species: Rabbit > 20000 mg/kg
Test: LCLo - Route: Inhalation - Species: Rat > 6000 Ppm - Duration: 6h

ethyl acetate - CAS: 141-78-6
OBSERVATIONS ON HUMAN SUBJECTS:
400 ppm: eye irritant.
Serious toxic effects at 2,000 ppm/60 mins, symptoms of malaise at 800 ppm.
Inhalatory toxicity: TCLo 400 ppm, irritation to nose, eyes, and respiratory system.

11.2. Information on other hazards
Endocrine disrupting properties:
No endocrine disruptor substances present in concentration >= 0.1%

SECTION 12: Ecological information

12.1. Toxicity
Adopt good working practices, so that the product is not released into the environment.
Xylene (Benzene <0.01%) - CAS: 1330-20-7
a) Aquatic acute toxicity:
Endpoint: LC50 - Species: Fish 2.6 mg/l - Duration h: 96
Endpoint: CE4 - Species: Daphnia 1 mg/l - Duration h: 24
Endpoint: CE6 - Species: Algae 4.36 mg/l - Duration h: 73
b) Aquatic chronic toxicity:
Endpoint: NOEC - Species: Fish > 1.3 mg/l - Duration h: 1344
Endpoint: NOEC - Species: Daphnia 1.57 mg/l - Duration h: 504

Hydrocarbons, C3-4; Petroleum gas - CAS: 68476-40-4
a) Aquatic acute toxicity:
Endpoint: LC50 - Species: Daphnia = 14.22 mg/l - Duration h: 48

propan-2-ol; isopropyl alcohol; isopropanol - CAS: 67-63-0
a) Aquatic acute toxicity:
Endpoint: LC50 - Species: Fish 9640 mg/l - Duration h: 96
Endpoint: LC50 - Species: Fish > 100 mg/l - Duration h: 48
Endpoint: EC50 - Species: Daphnia > 10000 mg/l - Duration h: 48
Endpoint: EC50 - Species: Algae > 1800 mg/l - Duration h: 72
acetone; propan-2-one; propanone - CAS: 67-64-1
a) Aquatic acute toxicity:
Endpoint: LC50 - Species: Fish = 8120 mg/l - Duration h: 96
Endpoint: EC50 - Species: Daphnia 8800 mg/l - Duration h: 48
Species: fanghi 1000 mg/l
b) Aquatic chronic toxicity:
Endpoint: NOEC - Species: Algae 530 mg/l - Duration h: 192
ethyl acetate - CAS: 141-78-6
a) Aquatic acute toxicity:
Endpoint: LC50 - Species: Fish 230 mg/l - Duration h: 96
Endpoint: EC50 - Species: Daphnia 165 mg/l - Duration h: 48
Endpoint: NOEC - Species: Algae > 100 mg/l - Duration h: 72
b) Aquatic chronic toxicity:
Endpoint: NOEC - Species: Daphnia 2.4 mg/l - Duration h: 504
c) Bacteria toxicity:
Endpoint: EC50 - Species: Algae 5870 mg/l - Duration h: 0.25

12.2. Persistence and degradability
None
propan-2-ol; isopropyl alcohol; isopropanol - CAS: 67-63-0
Biodegradability: Readily biodegradable - Duration: .10gg - %: 70
acetone; propan-2-one; propanone - CAS: 67-64-1
Biodegradability: Readily biodegradable - Duration: 28gg - %: 91 - Notes: OECD 301 B

12.3. Bioaccumulative potential
acetone; propan-2-one; propanone - CAS: 67-64-1
Test: BCF - Bioconcentrantion factor 3
ethyl acetate - CAS: 141-78-6
Test: BCF - Bioconcentrantion factor 30

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 >= 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:
"Use in accordance with good working practices, avoiding dispersal in the environment.
Do not discharge into drains, ground water or water courses. Comply with current legislation on the protection of water and soil from pollution (Legislative Decree No. 152 of 3/4/2006).
Dispose of used product and containers by handing them over to authorised companies, in accordance with the provisions of
Legislative Decree No. 152/2006 (Consolidated Environmental Act, which replaced the Ronchi Decree) as amended.
The used product is to be considered special waste to be classified in accordance with Directive No. 2008/98/EC on waste and related matters. Recover if possible. Send to authorised disposal plants or incineration under

controlled conditions (152/2006 art. 184).
Act in accordance with the local and national laws in force.
Contaminated packaging must be emptied as far as possible. After cleaning, send to an authorised centre for recycling or disposal."

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-Enviromental Pollutant:	No
IMDG-Marine pollutant:	No
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
N.A.
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)
Regulation (EU) n. 2020/217 (ATP 14 CLP)
Regulation (EU) n. 2020/1182 (ATP 15 CLP)
Regulation (EU) n. 2021/643 (ATP 16 CLP)
Regulation (EU) n. 2021/849 (ATP 17 CLP)
Regulation (EU) n. 2022/692 (ATP 18 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:

Restriction 75

Volatile Organic compounds - VOCs = 100.00 %
Volatile Organic compounds - VOCs = 1000.00 g/Kg
Volatile Organic compounds - VOCs = 837.00 g/l

Where applicable, refer to the following regulatory provisions :

Regulated Product according to Regulation (EU) 1148/2019. All suspicious transactions and significant disappearances and thefts must be reported to the relevant national contact point.
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

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:

Xylene (Benzene <0.01%)
Hydrocarbons, C3-4; Petroleum gas
propan-2-ol; isopropyl alcohol; isopropanol
acetone; propan-2-one; propanone

SECTION 16: Other information

Text of phrases referred to under heading 3:

H226 Flammable liquid and vapour.
H412 Harmful to aquatic life with long lasting effects.
H332 Harmful if inhaled.

H312 Harmful in contact with skin.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
H315 Causes skin irritation.
H373 (Inhalation) May cause damage to organs through prolonged or repeated exposure if inhaled.
H304 May be fatal if swallowed and enters airways.
H220 Extremely flammable gas.
H280 Contains gas under pressure; may explode if heated.
H225 Highly flammable liquid and vapour.
H336 May cause drowsiness or dizziness.
EUH066 Repeated exposure may cause skin dryness or cracking.

Hazard class and hazard category	**Code**	**Description**
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. 4	3.1/4/Dermal	Acute toxicity (dermal), Category 4
Acute Tox. 4	3.1/4/Inhal	Acute toxicity (inhalation), Category 4
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
STOT RE 2	3.9/2	Specific target organ toxicity - repeated exposure, Category 2
Aquatic Chronic 3	4.1/C3	Chronic (long term) aquatic hazard, category 3

Paragraphs modified from the previous revision:

SECTION 5: Firefighting measures
SECTION 6: Accidental release measures
SECTION 7: Handling and storage
SECTION 8: Exposure controls/personal protection
SECTION 9: Physical and chemical properties
SECTION 10: Stability and reactivity
SECTION 13: Disposal considerations
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
Acute Tox. 4, H332	Calculation method
Skin Irrit. 2, H315	Calculation method
Eye Irrit. 2, H319	Calculation method
STOT SE 3, H335	Calculation method
STOT SE 3, H336	Calculation method
STOT RE 2, H373	Calculation method
Aquatic Chronic 3, H412	Calculation method

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.
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

Table of contents

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, 28/08/2019

Substance identity	
Chemical name	2-PROPANONE
CAS No.	67-64-1
EINECS No.	200-662-2

Table of contents

1. ES 1 Use at industrial site

1.1 TITLE SECTION

Exposure Scenario name	Professional application of coatings and inks
Date - Version	28/08/2019 - 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 Industrial	PROC1
CS3 Industrial	PROC2
CS4 Industrial	PROC3
CS5 Industrial	PROC4
CS6 Industrial	PROC5
CS7 Industrial	PROC7
CS8 Industrial	PROC8a
CS9 Industrial	PROC8b
CS10 Industrial	PROC9
CS11 Industrial	PROC10
CS12 Industrial	PROC13
CS13 Industrial	PROC15
CS14 Industrial	PROC19

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)

Amount used, frequency and duration of use (or from service life)

Release type: Continuous release

Emission days: 360 days per year

Technical and organisational conditions and measures

Control measures to prevent releases

Treat air emission to provide the required removal efficiency of (%):	Air - minimum efficiency of: 90 %

Conditions and measures related to treatment of waste (including article waste)

Waste treatment

External treatment and disposal of waste should comply with applicable local and/or national regulations.

1.2. CS2: Worker Contributing Scenario: Industrial (PROC1)	
Process Categories	Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions (PROC1)

Product (article) characteristics

Physical form of product:

Liquid, vapour pressure > 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

Handle substance within a closed system.
Ensure operation is undertaken outdoors.

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

Personal protection

Wear suitable gloves tested to EN374.
Use eye protection according to EN 166.

1.2. CS3: Worker Contributing Scenario: Industrial (PROC2)	
Process Categories	Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions (PROC2)

Product (article) characteristics

Physical form of product:

Liquid, vapour pressure > 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

Handle substance within a closed system.
Ensure operation is undertaken outdoors.

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

Personal protection

Wear suitable gloves tested to EN374.
Use eye protection according to EN 166.

1.2. CS4: Worker Contributing Scenario: Industrial (PROC3)	
Process Categories	Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition (PROC3)

Product (article) characteristics

Physical form of product:

Liquid, vapour pressure > 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
Handle substance within a closed system.
Ensure operation is undertaken outdoors.

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

Personal protection
Wear suitable gloves tested to EN374.
Use eye protection according to EN 166.

1.2. CS5: Worker Contributing Scenario: Industrial (PROC4)

Process Categories	Chemical production where opportunity for exposure arises (PROC4)

Product (article) characteristics

Physical form of product:
Liquid, vapour pressure > 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
Handle substance within a closed system.
Ensure operation is undertaken outdoors.

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

Personal protection
Wear suitable gloves tested to EN374.
Use eye protection according to EN 166.

1.2. CS6: Worker Contributing Scenario: Industrial (PROC5)

Process Categories	Mixing or blending in batch processes (PROC5)

Product (article) characteristics

Physical form of product:
Liquid, vapour pressure > 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
Handle substance within a closed system.
Ensure operation is undertaken outdoors.

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

Personal protection
Wear suitable gloves tested to EN374.
Use eye protection according to EN 166.

1.2. CS7: Worker Contributing Scenario: Industrial (PROC7)

Process Categories	Industrial spraying (PROC7)

Product (article) characteristics

Physical form of product:

Liquid, vapour pressure > 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 operation is undertaken outdoors.
For measures to control risks from physicochemical properties, refer to main body of the SDS, section 7 and/or 8.

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

Personal protection

Wear suitable gloves tested to EN374.
Use eye protection according to EN 166.
Respiratory protection in accordance with EN141

1.2. CS8: Worker Contributing Scenario: Industrial (PROC8a)

Process Categories	Transfer of substance or mixture (charging and discharging) at non-dedicated facilities (PROC8a)

Product (article) characteristics

Physical form of product:

Liquid, vapour pressure > 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

Handle substance within a closed system.
Ensure operation is undertaken outdoors.

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

Personal protection

Wear suitable gloves tested to EN374.
Use eye protection according to EN 166.

1.2. CS9: Worker Contributing Scenario: Industrial (PROC8b)

Process Categories	Transfer of substance or mixture (charging and discharging) at dedicated facilities (PROC8b)

Product (article) characteristics

Physical form of product:

Liquid, vapour pressure > 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

Handle substance within a closed system.
Ensure operation is undertaken outdoors.

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

Personal protection

Wear suitable gloves tested to EN374.
Use eye protection according to EN 166.

1.2. CS10: Worker Contributing Scenario: Industrial (PROC9)

Process Categories	Transfer of substance or mixture into small containers (dedicated filling line, including weighing) (PROC9)

Product (article) characteristics

Physical form of product:

Liquid, vapour pressure > 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

Handle substance within a closed system.
Ensure operation is undertaken outdoors.

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

Personal protection

Wear suitable gloves tested to EN374.
Use eye protection according to EN 166.

1.2. CS11: Worker Contributing Scenario: Industrial (PROC10)

Process Categories	Roller application or brushing (PROC10)

Product (article) characteristics

Physical form of product:

Liquid, vapour pressure > 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

Handle substance within a closed system.
Ensure operation is undertaken outdoors.

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

Personal protection

Wear suitable gloves tested to EN374.
Use eye protection according to EN 166.

1.2. CS12: Worker Contributing Scenario: Industrial (PROC13)

Process Categories	Treatment of articles by dipping and pouring (PROC13)

Product (article) characteristics

Physical form of product:

Liquid, vapour pressure > 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

Handle substance within a closed system.
Ensure operation is undertaken outdoors.

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

Personal protection

Wear suitable gloves tested to EN374.
Use eye protection according to EN 166.

1.2. CS13: Worker Contributing Scenario: Industrial (PROC15)

Process Categories	Use as laboratory reagent (PROC15)

Product (article) characteristics

Physical form of product:

Liquid, vapour pressure > 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

Handle substance within a closed system.
Ensure operation is undertaken outdoors.

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

Personal protection

Wear suitable gloves tested to EN374.
Use eye protection according to EN 166.

1.2. CS14: Worker Contributing Scenario: Industrial (PROC19)

Process Categories	Manual activities involving hand contact (PROC19)

Product (article) characteristics

Physical form of product:

Liquid, vapour pressure > 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

Handle substance within a closed system.
Ensure operation is undertaken outdoors.

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

Personal protection

Wear suitable gloves tested to EN374.
Use eye protection according to EN 166.

1.3 Exposure estimation and reference to its source

1.3. CS2: Worker Contributing Scenario: Industrial (PROC1)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	0.01 ppm	EASY TRA v2.0	2E-05
dermal, systemic, long-term	0.34 mg/kg bw/day	EASY TRA v2.0	0.002

1.3. CS3: Worker Contributing Scenario: Industrial (PROC2)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	50 ppm	EASY TRA v2.0	0.1
dermal, systemic, long-term	1.37 mg/kg bw/day	EASY TRA v2.0	0.01

1.3. CS4: Worker Contributing Scenario: Industrial (PROC3)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	100 ppm	EASY TRA v2.0	0.2
dermal, systemic, long-term	0.34 mg/kg bw/day	EASY TRA v2.0	0.002

1.3. CS5: Worker Contributing Scenario: Industrial (PROC4)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	100 ppm	EASY TRA v2.0	0.2
dermal, systemic, long-term	6.86 mg/kg bw/day	EASY TRA v2.0	0.04

1.3. CS6: Worker Contributing Scenario: Industrial (PROC5)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	250 ppm	EASY TRA v2.0	0.5
dermal, systemic, long-term	13.71 mg/kg bw/day	EASY TRA v2.0	0.07

1.3. CS7: Worker Contributing Scenario: Industrial (PROC7)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	25 ppm	EASY TRA v2.0	0.05
dermal, systemic, long-term	42.86 mg/kg bw/day	EASY TRA v2.0	0.23
inhalative, systemic, long-term	350 ppm	EASY TRA v2.0	0.7
inhalative, systemic, long-term	50 ppm	EASY TRA v2.0	0.1
dermal, systemic, long-term	2.14 mg/kg bw/day	EASY TRA v2.0	0.01

1.3. CS8: Worker Contributing Scenario: Industrial (PROC8a)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	250 ppm	EASY TRA v2.0	0.5
dermal, systemic, long-term	13.71 mg/kg bw/day	EASY TRA v2.0	0.07

1.3. CS9: Worker Contributing Scenario: Industrial (PROC8b)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	150 ppm	EASY TRA v2.0	0.3
dermal, systemic, long-term	6.86 mg/kg bw/day	EASY TRA v2.0	0.037

1.3. CS10: Worker Contributing Scenario: Industrial (PROC9)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	200 ppm	EASY TRA v2.0	0.4
dermal, systemic, long-term	6.86 mg/kg bw/day	EASY TRA v2.0	0.04

1.3. CS11: Worker Contributing Scenario: Industrial (PROC10)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	250 ppm	EASY TRA v2.0	0.5
dermal, systemic, long-term	27.43 mg/kg bw/day	EASY TRA v2.0	0.15

1.3. CS12: Worker Contributing Scenario: Industrial (PROC13)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)

inhalative, systemic, long-term	250 ppm	EASY TRA v2.0	0.5
dermal, systemic, long-term	13.71 mg/kg bw/day	EASY TRA v2.0	0.07

1.3. CS13: Worker Contributing Scenario: Industrial (PROC15)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	50 ppm	EASY TRA v2.0	0.1
dermal, systemic, long-term	0.34 mg/kg bw/day	EASY TRA v2.0	0

1.3. CS14: Worker Contributing Scenario: Industrial (PROC19)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	250 ppm	EASY TRA v2.0	0.5
dermal, systemic, long-term	28.29 mg/kg bw/day	EASY TRA v2.0	0.15

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 Widespread use by professional workers

2.1 TITLE SECTION

Exposure Scenario name	Professional application of coatings and inks
Date - Version	28/08/2019 - 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 Covered by	ERC6d - ERC8a - ERC8c - ERC8f

Worker Contributing Scenario	
CS2 General use from professional operators	PROC1
CS3 General use from professional operators	PROC2
CS4 General use from professional operators	PROC3
CS5 General use from professional operators	PROC4 - PROC8b - PROC9
CS6 General use from professional operators	PROC5 - PROC8a
CS7 General use from professional operators	PROC10
CS8 General use from professional operators	PROC11
CS9 General use from professional operators	PROC13
CS10 General use from professional operators	PROC19

2.2 Conditions of use affecting exposure

2.2. CS1: Environment Contributing Scenario: Covered by (ERC6d, ERC8a, ERC8c, ERC8f)

Environmental release categories	Use of reactive process regulators in polymerisation processes at industrial site (inclusion or not into/onto article) - Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) - Widespread use leading to inclusion into/onto article (indoor) - Widespread use leading to inclusion into/onto article (outdoor) (ERC6d, ERC8a, ERC8c, ERC8f)

Amount used, frequency and duration of use (or from service life)

Release type: Continuous release

Emission days: 360 days per year

Technical and organisational conditions and measures

Control measures to prevent releases

Treat air emission to provide the required removal efficiency of (%):	Air - minimum efficiency of: 90 %

Conditions and measures related to treatment of waste (including article waste)

Waste treatment

External treatment and disposal of waste should comply with applicable local and/or national regulations.

2.2. CS2: Worker Contributing Scenario: General use from professional operators (PROC1)

Process Categories	Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions (PROC1)

Product (article) characteristics

Physical form of product:

Liquid, vapour pressure > 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

Handle substance within a closed system.
Ensure operation is undertaken outdoors.

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

Personal protection

Wear suitable gloves tested to EN374.
Use eye protection according to EN 166.

2.2. CS3: Worker Contributing Scenario: General use from professional operators (PROC2)

Process Categories	Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions (PROC2)

Product (article) characteristics

Physical form of product:

Liquid, vapour pressure > 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

Handle substance within a closed system.
Ensure operation is undertaken outdoors.

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

Personal protection

Wear suitable gloves tested to EN374.
Use eye protection according to EN 166.

2.2. CS4: Worker Contributing Scenario: General use from professional operators (PROC3)

Process Categories	Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition (PROC3)

Product (article) characteristics

Physical form of product:

Liquid, vapour pressure > 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

Handle substance within a closed system.
Ensure operation is undertaken outdoors.

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

Personal protection

Wear suitable gloves tested to EN374.
Use eye protection according to EN 166.

2.2. CS5: Worker Contributing Scenario: General use from professional operators (PROC4, PROC8b, PROC9)

Process Categories	Chemical production where opportunity for exposure arises - Transfer of substance or mixture (charging and discharging) at dedicated facilities - Transfer of substance or mixture into small containers (dedicated filling line, including weighing) (PROC4, PROC8b, PROC9)

Product (article) characteristics

Physical form of product:

Liquid, vapour pressure > 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

Handle substance within a closed system.
Ensure operation is undertaken outdoors.

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

Personal protection

Wear suitable gloves tested to EN374.
Use eye protection according to EN 166.

2.2. CS6: Worker Contributing Scenario: General use from professional operators (PROC5, PROC8a)

Process Categories	Mixing or blending in batch processes - Transfer of substance or mixture (charging and discharging) at non-dedicated facilities (PROC5, PROC8a)

Product (article) characteristics

Physical form of product:

Liquid, vapour pressure > 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 operation is undertaken outdoors.
Avoid carrying out activities involving exposure for more than 4 hours per day.

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

Personal protection

Wear suitable gloves tested to EN374.
Use eye protection according to EN 166.

2.2. CS7: Worker Contributing Scenario: General use from professional operators (PROC10)

Process Categories	Roller application or brushing (PROC10)

Product (article) characteristics

Physical form of product:

Liquid, vapour pressure > 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

Handle substance within a closed system.
Ensure operation is undertaken outdoors.
Avoid carrying out activities involving exposure for more than 4 hours per day.

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

Personal protection

Wear suitable gloves tested to EN374.
Use eye protection according to EN 166.

2.2. CS8: Worker Contributing Scenario: General use from professional operators (PROC11)

Process Categories	Non industrial spraying (PROC11)

Product (article) characteristics

Physical form of product:

Liquid, vapour pressure > 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 operation is undertaken outdoors.
Avoid carrying out activities involving exposure for more than 4 hours per day.
Limit the substance content in the product to 25 %.
Avoid carrying out activities involving exposure for more than 1 hour per day.

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

Personal protection

Wear suitable gloves tested to EN374.
Use eye protection according to EN 166.
Wear a respirator conforming to EN140.

2.2. CS9: Worker Contributing Scenario: General use from professional operators (PROC13)

Process Categories	Treatment of articles by dipping and pouring (PROC13)

Product (article) characteristics

Physical form of product:

Liquid, vapour pressure > 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
Handle substance within a closed system.
Ensure operation is undertaken outdoors.

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

Personal protection
Wear suitable gloves tested to EN374.
Use eye protection according to EN 166.

2.2. CS10: Worker Contributing Scenario: General use from professional operators (PROC19)

Process Categories	Manual activities involving hand contact (PROC19)

Product (article) characteristics

Physical form of product:
Liquid, vapour pressure > 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
Handle substance within a closed system.
Ensure operation is undertaken outdoors.
Avoid carrying out activities involving exposure for more than 1 hour per day.
Limit the substance content in the product to 25 %.

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

Personal protection
Wear suitable gloves tested to EN374.
Use eye protection according to EN 166.

2.3 Exposure estimation and reference to its source

2.3. CS2: Worker Contributing Scenario: General use from professional operators (PROC1)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	0.01 ppm	EASY TRA v2.0	2E-05
dermal, systemic, long-term	0.34 mg/kg bw/day	EASY TRA v2.0	0.002

2.3. CS3: Worker Contributing Scenario: General use from professional operators (PROC2)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	50 ppm	EASY TRA v2.0	0.1
dermal, systemic, long-term	1.37 mg/kg bw/day	EASY TRA v2.0	0.01

2.3. CS4: Worker Contributing Scenario: General use from professional operators (PROC3)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	100 ppm	EASY TRA v2.0	0.2
dermal, systemic, long-term	0.34 mg/kg bw/day	EASY TRA v2.0	0.002

2.3. CS5: Worker Contributing Scenario: General use from professional operators (PROC4, PROC8b, PROC9)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	250 ppm	EASY TRA v2.0	0.5
dermal, systemic, long-term	6.86 mg/kg bw/day	EASY TRA v2.0	0.04

2.3. CS6: Worker Contributing Scenario: General use from professional operators (PROC5, PROC8a)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	350 ppm	EASY TRA v2.0	0.7
dermal, systemic, long-term	13.71 mg/kg bw/day	EASY TRA v2.0	0.07
inhalative, systemic, long-term	300 ppm	EASY TRA v2.0	0.6
dermal, systemic, long-term	1.37 mg/kg bw/day	EASY TRA v2.0	0.007

2.3. CS7: Worker Contributing Scenario: General use from professional operators (PROC10)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
dermal, systemic, long-term	1.37 mg/kg bw/day	EASY TRA v2.0	0.007

2.3. CS8: Worker Contributing Scenario: General use from professional operators (PROC11)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
dermal, systemic, long-term	2.14 mg/kg bw/day	EASY TRA v2.0	0.01
inhalative, systemic, long-term	200 ppm	EASY TRA v2.0	0.4
dermal, systemic, long-term	64.28 mg/kg bw/day	EASY TRA v2.0	0.35
inhalative, systemic, long-term	252 ppm	EASY TRA v2.0	0.5
dermal, systemic, long-term	107.14 mg/kg bw/day	EASY TRA v2.0	0.58

2.3. CS9: Worker Contributing Scenario: General use from professional operators (PROC13)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	250 ppm	EASY TRA v2.0	0.5
dermal, systemic, long-term	13.71 mg/kg bw/day	EASY TRA v2.0	0.07

2.3. CS10: Worker Contributing Scenario: General use from professional operators (PROC19)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	300 ppm	EASY TRA v2.0	0.6
dermal, systemic, long-term	16.97 mg/kg bw/day	EASY TRA v2.0	0.09

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 Consumer use; Various products (PC9b, PC9a, PC1, PC4, PC15)

3.1 TITLE SECTION

Exposure Scenario name	Consumer application of coatings
Date - Version	28/08/2019 - 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) - Non-metal surface treatment products (PC15) - Lubricants, greases, release products (PC24)

Environment Contributing Scenario	
CS1 Covered by	ERC8a - ERC8c - ERC8d - ERC8f

Consumer Contributing Scenario	
CS2 Consumer	PC1
CS3 Consumer	PC1
CS4 Consumer	PC1
CS5 Consumer	PC4
CS6 Consumer	PC4
CS7 Consumer	PC4
CS8 Consumer	PC9a
CS9 Consumer	PC9a
CS10 Consumer	PC9a - PC15
CS11 Consumer	PC9a - PC15
CS12 Consumer	PC9b
CS13 Consumer	PC9b
CS14 Consumer	PC9b
CS15 Consumer	PC24
CS16 Consumer	PC31
CS17 Consumer	PC31

3.2 Conditions of use affecting exposure

3.2. CS1: Environment Contributing Scenario: Covered by (ERC8a, ERC8c, ERC8d, ERC8f)

Environmental release categories	Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) - Widespread use leading to inclusion into/onto article (indoor) - Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor) - Widespread use leading to inclusion into/onto article (outdoor) (ERC8a, ERC8c, ERC8d, ERC8f)

Amount used, frequency and duration of use (or from service life)

Release type: Continuous release

Emission days: 360 days per year

Conditions and measures related to treatment of waste (including article waste)

Waste treatment

External treatment and disposal of waste should comply with applicable local and/or national regulations.

3.2. CS2: Consumer Contributing Scenario: Consumer (PC1)

Product Categories	Adhesives, sealants (PC1)

Product (article) characteristics

Physical form of product:

Liquid

Vapour pressure:

240 hPa

Concentration of substance in product:

Covers concentrations up to 30 %

Amount used, frequency and duration of use/exposure

Amounts used:

Amount per use 9 g

Duration:

Exposure duration 4 h

Frequency:

Covers exposure up to 365 days per year

Other conditions affecting consumers exposure

Room size: Covers use in room size of 20 m³
Temperature: Covers use at ambient temperatures.
Ventilation rate: Covers use under typical household ventilation.

3.2. CS3: Consumer Contributing Scenario: Consumer (PC1)

Product Categories	Adhesives, sealants (PC1)

Product (article) characteristics

Physical form of product:

Liquid

Vapour pressure:

240 hPa

Concentration of substance in product:

Covers concentrations up to 30 %

Amount used, frequency and duration of use/exposure

Amounts used:

Amount per use 6390 g

Duration:

Exposure duration 6 h

Frequency:

Covers exposure up to 1 days per year

Other conditions affecting consumers exposure

Room size: Covers use in room size of 20 m³
Temperature: Covers use at ambient temperatures.
Ventilation rate: Covers use under typical household ventilation.

3.2. CS4: Consumer Contributing Scenario: Consumer (PC1)

Product Categories	Adhesives, sealants (PC1)

Product (article) characteristics

Physical form of product:
Aerosol

Vapour pressure:
240 hPa

Concentration of substance in product:
Covers concentrations up to 30 %

Amount used, frequency and duration of use/exposure

Amounts used:
Amount per use 85.05 g

Duration:
Exposure duration 4 h

Frequency:
Covers exposure up to 6 days per year

Other conditions affecting consumers exposure

Room size: Covers use in room size of 20 m³
Temperature: Covers use at ambient temperatures.
Ventilation rate: Covers use under typical household ventilation.

3.2. CS5: Consumer Contributing Scenario: Consumer (PC4)

Product Categories	Anti-freeze and de-icing products (PC4)

Product (article) characteristics

Physical form of product:
Liquid

Vapour pressure:
240 hPa

Concentration of substance in product:
Covers percentage substance in the product up to 1 %.

Amount used, frequency and duration of use/exposure

Amounts used:
Amount per use 0.5 g

Duration:
Exposure duration 0.02 h

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.

3.2. CS6: Consumer Contributing Scenario: Consumer (PC4)

Product Categories	Anti-freeze and de-icing products (PC4)

Product (article) characteristics

Physical form of product:
Liquid

Vapour pressure:
240 hPa

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:
Exposure duration 0.17 h

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.

3.2. CS7: Consumer Contributing Scenario: Consumer (PC4)

Product Categories	Anti-freeze and de-icing products (PC4)

Product (article) characteristics

Physical form of product:
Liquid

Vapour pressure:
240 hPa

Concentration of substance in product:
Covers concentrations up to 50 %

Amount used, frequency and duration of use/exposure

Amounts used:
Amount per use 4 g

Duration:
Exposure duration 0.25 h

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.

3.2. CS8: Consumer Contributing Scenario: Consumer (PC9a)

Product Categories	Coatings and paints, thinners, paint removers (PC9a)

Product (article) characteristics

Physical form of product:
Liquid

Vapour pressure:
240 hPa

Concentration of substance in product:
Covers concentrations up to 1.5 %

Amount used, frequency and duration of use/exposure

Amounts used:
Amount per use 2760 g

Duration:
Exposure duration 2.2 h
Frequency:
Covers exposure up to 4 days per year

Other conditions affecting consumers exposure

Room size: Covers use in room size of 20 m³
Temperature: Covers use at ambient temperatures.
Ventilation rate: Covers use under typical household ventilation.

3.2. CS9: Consumer Contributing Scenario: Consumer (PC9a)

Product Categories	Coatings and paints, thinners, paint removers (PC9a)

Product (article) characteristics

Physical form of product:
Liquid

Vapour pressure:
240 hPa

Concentration of substance in product:
Covers concentrations up to 27.5 %

Amount used, frequency and duration of use/exposure

Amounts used:
Amount per use 744 g

Duration:
Exposure duration 2.2 h
Frequency:
Covers exposure up to 6 days per year

Other conditions affecting consumers exposure

Room size: Covers use in room size of 20 m³
Temperature: Covers use at ambient temperatures.
Ventilation rate: Covers use under typical household ventilation.

3.2. CS10: Consumer Contributing Scenario: Consumer (PC9a, PC15)

Product Categories	Coatings and paints, thinners, paint removers - Non-metal surface treatment products (PC9a, PC15)

Product (article) characteristics

Physical form of product:
Aerosol

Concentration of substance in product:
Covers concentrations up to 50 %

Amount used, frequency and duration of use/exposure

Amounts used:
Amount per use 215 g

Duration:
Exposure duration 0.33 h
Frequency:
Covers exposure up to 2 days per year

Other conditions affecting consumers exposure

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

3.2. CS11: Consumer Contributing Scenario: Consumer (PC9a, PC15)

Product Categories	Coatings and paints, thinners, paint removers - Non-metal surface treatment products (PC9a, PC15)

Product (article) characteristics

Physical form of product:
Liquid

Vapour pressure:
240 hPa

Concentration of substance in product:
Covers concentrations up to 2 %

Amount used, frequency and duration of use/exposure

Amounts used:
Amount per use 491 g

Duration:
Exposure duration 2 h

Frequency:
Covers exposure up to 3 days per year

Other conditions affecting consumers exposure

Room size: Covers use in room size of 20 m³

3.2. CS12: Consumer Contributing Scenario: Consumer (PC9b)

Product Categories	Fillers, putties, plasters, modelling clay (PC9b)

Product (article) characteristics

Physical form of product:
Liquid

Vapour pressure:
240 hPa

Concentration of substance in product:
Covers concentrations up to 27.5 %

Amount used, frequency and duration of use/exposure

Amounts used:
Amount per use 85 g

Duration:
Exposure duration 4 h

Frequency:
Covers exposure up to 12 days per year

Other conditions affecting consumers exposure

Room size: Covers use in room size of 20 m³
Temperature: Covers use at ambient temperatures.
Ventilation rate: Covers use under typical household ventilation.

3.2. CS13: Consumer Contributing Scenario: Consumer (PC9b)

Product Categories	Fillers, putties, plasters, modelling clay (PC9b)

Product (article) characteristics

Physical form of product:
Liquid

Vapour pressure:
240 hPa

Concentration of substance in product:
Covers concentrations up to 2 %

Amount used, frequency and duration of use/exposure

Amounts used:
Amount per use 13800 g

Duration:
Exposure duration 2 h

Frequency:
Covers exposure up to 365 days per year

Other conditions affecting consumers exposure

Room size: Covers use in room size of 20 m³
Temperature: Covers use at ambient temperatures.
Ventilation rate: Covers use under typical household ventilation.

3.2. CS14: Consumer Contributing Scenario: Consumer (PC9b)

Product Categories	Fillers, putties, plasters, modelling clay (PC9b)

Product (article) characteristics

Physical form of product:
Liquid

Vapour pressure:
240 hPa

Concentration of substance in product:
Covers concentrations up to 50 %

Amount used, frequency and duration of use/exposure

Amounts used:
Amount per use 1.35 g

Frequency:
Covers exposure up to 365 days per year

Other conditions affecting consumers exposure

Room size: Covers use in room size of 20 m³
Temperature: Covers use at ambient temperatures.
Ventilation rate: Covers use under typical household ventilation.

3.2. CS15: Consumer Contributing Scenario: Consumer (PC24)

Product Categories	Lubricants, greases, release products (PC24)

Product (article) characteristics

Physical form of product:
Aerosol

Concentration of substance in product:
Covers concentrations up to 50 %

Amount used, frequency and duration of use/exposure

Amounts used:
Amount per use 73 g

Duration:
Exposure duration 0.17 h
Frequency:
Covers exposure up to 6 days per year

Other conditions affecting consumers exposure

Room size: Covers use in room size of 20 m³
Temperature: Covers use at ambient temperatures.
Ventilation rate: Covers use under typical household ventilation.

3.2. CS16: Consumer Contributing Scenario: Consumer (PC31)

Product Categories	Polishes and wax blends (PC31)

Product (article) characteristics

Physical form of product:
Liquid

Vapour pressure:
240 hPa

Concentration of substance in product:
Covers concentrations up to 50 %

Amount used, frequency and duration of use/exposure

Amounts used:
Amount per use 142 g

Duration:
Exposure duration 1.23 h
Frequency:
Covers exposure up to 29 days per year

Other conditions affecting consumers exposure

Room size: Covers use in room size of 20 m³
Temperature: Covers use at ambient temperatures.
Ventilation rate: Covers use under typical household ventilation.

3.2. CS17: Consumer Contributing Scenario: Consumer (PC31)

Product Categories	Polishes and wax blends (PC31)

Product (article) characteristics

Physical form of product:
Aerosol

Concentration of substance in product:
Covers concentrations up to 50 %

Amount used, frequency and duration of use/exposure

Amounts used:
Amount per use 35 g

Duration:
Exposure duration 0.33 h
Frequency:
Covers exposure up to 8 days per year

Other conditions affecting consumers exposure

Room size: Covers use in room size of 20 m³
Temperature: Covers use at ambient temperatures.
Ventilation rate: Covers use under typical household ventilation.

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 Use at industrial site

4.1 TITLE SECTION

Exposure Scenario name	Cleaning agent
Date - Version	28/08/2019 - 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 Industrial	PROC1
CS3 Industrial	PROC2
CS4 Industrial	PROC3
CS5 Industrial	PROC4
CS6 Industrial	PROC5 - PROC8a
CS7 Industrial	PROC7
CS8 Industrial	PROC8b
CS9 Industrial	PROC9
CS10 Industrial	PROC10
CS11 Industrial	PROC13
CS12 Industrial	PROC19

4.2 Conditions of use affecting exposure

4.2. 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)

Amount used, frequency and duration of use (or from service life)

Release type: Continuous release

Emission days: 360 days per year

Technical and organisational conditions and measures

Control measures to prevent releases

Treat air emission to provide the required removal efficiency of (%):	Air - minimum efficiency of: 90 %

Conditions and measures related to treatment of waste (including article waste)

Waste treatment

External treatment and disposal of waste should comply with applicable local and/or national regulations.

4.2. CS2: Worker Contributing Scenario: Industrial (PROC1)

Process Categories	Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions (PROC1)

Product (article) characteristics

Physical form of product:

Liquid, vapour pressure > 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

Handle substance within a closed system.
Ensure operation is undertaken outdoors.

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

Personal protection

Wear suitable gloves tested to EN374.
Use eye protection according to EN 166.

4.2. CS3: Worker Contributing Scenario: Industrial (PROC2)

Process Categories	Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions (PROC2)

Product (article) characteristics

Physical form of product:

Liquid, vapour pressure > 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

Handle substance within a closed system.
Ensure operation is undertaken outdoors.

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

Personal protection

Wear suitable gloves tested to EN374.
Use eye protection according to EN 166.

4.2. CS4: Worker Contributing Scenario: Industrial (PROC3)

Process Categories	Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition (PROC3)

Product (article) characteristics

Physical form of product:

Liquid, vapour pressure > 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

Handle substance within a closed system.
Ensure operation is undertaken outdoors.

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

Personal protection

Wear suitable gloves tested to EN374.
Use eye protection according to EN 166.

4.2. CS5: Worker Contributing Scenario: Industrial (PROC4)

Process Categories	Chemical production where opportunity for exposure arises (PROC4)

Product (article) characteristics

Physical form of product:

Liquid, vapour pressure > 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

Handle substance within a closed system.
Ensure operation is undertaken outdoors.

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

Personal protection

Wear suitable gloves tested to EN374.
Use eye protection according to EN 166.

4.2. CS6: Worker Contributing Scenario: Industrial (PROC5, PROC8a)

Process Categories	Mixing or blending in batch processes - Transfer of substance or mixture (charging and discharging) at non-dedicated facilities (PROC5, PROC8a)

Product (article) characteristics

Physical form of product:

Liquid, vapour pressure > 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

Handle substance within a closed system.
Ensure operation is undertaken outdoors.

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

Personal protection

Wear suitable gloves tested to EN374.
Use eye protection according to EN 166.

4.2. CS7: Worker Contributing Scenario: Industrial (PROC7)

Process Categories	Industrial spraying (PROC7)

Product (article) characteristics

Physical form of product:

Liquid, vapour pressure > 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

Handle substance within a closed system.
Ensure operation is undertaken outdoors.
Fill containers/cans at dedicated fill points supplied with local extract ventilation.
Use of an integrated local exhaust ventilation is required.

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

Personal protection

Wear suitable gloves tested to EN374.
Use eye protection according to EN 166.
Wear a respirator conforming to EN140.

4.2. CS8: Worker Contributing Scenario: Industrial (PROC8b)

Process Categories	Transfer of substance or mixture (charging and discharging) at dedicated facilities (PROC8b)

Product (article) characteristics

Physical form of product:

Liquid, vapour pressure > 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

Handle substance within a closed system.
Ensure operation is undertaken outdoors.

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

Personal protection

Wear suitable gloves tested to EN374.
Use eye protection according to EN 166.

4.2. CS9: Worker Contributing Scenario: Industrial (PROC9)

Process Categories	Transfer of substance or mixture into small containers (dedicated filling line, including weighing) (PROC9)

Product (article) characteristics

Physical form of product:

Liquid, vapour pressure > 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

Handle substance within a closed system.
Ensure operation is undertaken outdoors.

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

Personal protection

Wear suitable gloves tested to EN374.
Use eye protection according to EN 166.

4.2. CS10: Worker Contributing Scenario: Industrial (PROC10)

Process Categories	Roller application or brushing (PROC10)

Product (article) characteristics

Physical form of product:

Liquid, vapour pressure > 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

Handle substance within a closed system.
Ensure operation is undertaken outdoors.

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

Personal protection

Wear suitable gloves tested to EN374.
Use eye protection according to EN 166.

4.2. CS11: Worker Contributing Scenario: Industrial (PROC13)

Process Categories	Treatment of articles by dipping and pouring (PROC13)

Product (article) characteristics

Physical form of product:

Liquid, vapour pressure > 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

Handle substance within a closed system.
Ensure operation is undertaken outdoors.

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

Personal protection

Wear suitable gloves tested to EN374.
Use eye protection according to EN 166.

4.2. CS12: Worker Contributing Scenario: Industrial (PROC19)

Process Categories	Manual activities involving hand contact (PROC19)

Product (article) characteristics

Physical form of product:

Liquid, vapour pressure > 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

Handle substance within a closed system.
Ensure operation is undertaken outdoors.

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

Personal protection

Wear suitable gloves tested to EN374.
Use eye protection according to EN 166.

4.3 Exposure estimation and reference to its source

4.3. CS2: Worker Contributing Scenario: Industrial (PROC1)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	0.01 ppm	ECETOC TRA worker v2.0	2E-05
dermal, systemic, long-term	0.34 mg/kg bw/day	ECETOC TRA worker v2.0	0.002

4.3. CS3: Worker Contributing Scenario: Industrial (PROC2)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	50 ppm	ECETOC TRA worker v2.0	0.1
dermal, systemic, long-term	1.37 mg/kg bw/day	ECETOC TRA worker v2.0	0.01

4.3. CS4: Worker Contributing Scenario: Industrial (PROC3)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	100 ppm	ECETOC TRA worker v2.0	0.2
dermal, systemic, long-term	0.34 mg/kg bw/day	ECETOC TRA worker v2.0	0.002

4.3. CS5: Worker Contributing Scenario: Industrial (PROC4)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	100 ppm	ECETOC TRA worker v2.0	0.2

dermal, systemic, long-term	6.86 mg/kg bw/day	ECETOC TRA worker v2.0	0.04

4.3. CS6: Worker Contributing Scenario: Industrial (PROC5, PROC8a)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	250 ppm	ECETOC TRA worker v2.0	0.5
dermal, systemic, long-term	13.71 mg/kg bw/day	ECETOC TRA worker v2.0	0.07

4.3. CS7: Worker Contributing Scenario: Industrial (PROC7)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	350 ppm	ECETOC TRA worker v2.0	0.7
dermal, systemic, long-term	2.14 mg/kg bw/day	ECETOC TRA worker v2.0	0.01

4.3. CS8: Worker Contributing Scenario: Industrial (PROC8b)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	150 ppm	ECETOC TRA worker v2.0	0.3
dermal, systemic, long-term	6.86 mg/kg bw/day	ECETOC TRA worker v2.0	0.037

4.3. CS9: Worker Contributing Scenario: Industrial (PROC9)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	200 ppm	ECETOC TRA worker v2.0	0.4
dermal, systemic, long-term	6.86 mg/kg bw/day	ECETOC TRA worker v2.0	0.04

4.3. CS10: Worker Contributing Scenario: Industrial (PROC10)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	250 ppm	ECETOC TRA worker v2.0	0.5
dermal, systemic, long-term	27.43 mg/kg bw/day	ECETOC TRA worker v2.0	0.15

4.3. CS11: Worker Contributing Scenario: Industrial (PROC13)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)

inhalative, systemic, long-term	250 ppm	ECETOC TRA worker v2.0	0.5
dermal, systemic, long-term	13.71 mg/kg bw/day	ECETOC TRA worker v2.0	0.074

4.3. CS12: Worker Contributing Scenario: Industrial (PROC19)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	250 ppm	ECETOC TRA worker v2.0	0.5
dermal, systemic, long-term	28.29 mg/kg bw/day	ECETOC TRA worker v2.0	0.15

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	Cleaning agent
Date - Version	28/08/2019 - 1.0
Life Cycle Stage	Widespread use by professional workers
Main user group	Professional uses

Environment Contributing Scenario

CS1 Covered by	ERC8d

Worker Contributing Scenario

CS2 General use from professional operators	PROC1
CS3 General use from professional operators	PROC2
CS4 General use from professional operators	PROC3
CS5 General use from professional operators	PROC4 - PROC8b - PROC9
CS6 General use from professional operators	PROC5 - PROC8a
CS7 General use from professional operators	PROC10
CS8 General use from professional operators	PROC11
CS9 General use from professional operators	PROC19

5.2 Conditions of use affecting exposure

5.2. CS1: Environment Contributing Scenario: Covered by (ERC8d)

Environmental release categories	Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor) (ERC8d)

Amount used, frequency and duration of use (or from service life)

Release type: Continuous release

Emission days: 360 days per year

Technical and organisational conditions and measures

Control measures to prevent releases

Treat air emission to provide the required removal efficiency of (%):	Air - minimum efficiency of: 90 %

Conditions and measures related to treatment of waste (including article waste)

Waste treatment

External treatment and disposal of waste should comply with applicable local and/or national regulations.

5.2. CS2: Worker Contributing Scenario: General use from professional operators (PROC1)

Process Categories	Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions (PROC1)

Product (article) characteristics

Physical form of product:

Liquid, vapour pressure > 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
Handle substance within a closed system.

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

Personal protection
Wear suitable gloves tested to EN374.
Use eye protection according to EN 166.

5.2. CS3: Worker Contributing Scenario: General use from professional operators (PROC2)

Process Categories	Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions (PROC2)

Product (article) characteristics

Physical form of product:
Liquid, vapour pressure > 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
Handle substance within a closed system.

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

Personal protection
Wear suitable gloves tested to EN374.
Use eye protection according to EN 166.

5.2. CS4: Worker Contributing Scenario: General use from professional operators (PROC3)

Process Categories	Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition (PROC3)

Product (article) characteristics

Physical form of product:
Liquid, vapour pressure > 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
Handle substance within a closed system.

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

Personal protection
Wear suitable gloves tested to EN374.
Use eye protection according to EN 166.

5.2. CS5: Worker Contributing Scenario: General use from professional operators (PROC4, PROC8b, PROC9)	
Process Categories	Chemical production where opportunity for exposure arises - Transfer of substance or mixture (charging and discharging) at dedicated facilities - Transfer of substance or mixture into small containers (dedicated filling line, including weighing) (PROC4, PROC8b, PROC9)

Product (article) characteristics

Physical form of product:

Liquid, vapour pressure > 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

Handle substance within a closed system.

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

Personal protection

Wear suitable gloves tested to EN374.
Use eye protection according to EN 166.

5.2. CS6: Worker Contributing Scenario: General use from professional operators (PROC5, PROC8a)	
Process Categories	Mixing or blending in batch processes - Transfer of substance or mixture (charging and discharging) at non-dedicated facilities (PROC5, PROC8a)

Product (article) characteristics

Physical form of product:

Liquid, vapour pressure > 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

Avoid carrying out activities involving exposure for more than 4 hours per day.
Ensure operation is undertaken outdoors.

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

Personal protection

Wear suitable gloves tested to EN374.
Use eye protection according to EN 166.

5.2. CS7: Worker Contributing Scenario: General use from professional operators (PROC10)	
Process Categories	Roller application or brushing (PROC10)

Product (article) characteristics

Physical form of product:

Liquid, vapour pressure > 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
Handle substance within a closed system.
Limit the substance content in the product to 25 %.
Avoid carrying out activities involving exposure for more than 4 hours per day.

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

Personal protection
Wear suitable gloves tested to EN374.
Use eye protection according to EN 166.

5.2. CS8: Worker Contributing Scenario: General use from professional operators (PROC11)

Process Categories	Non industrial spraying (PROC11)

Product (article) characteristics

Physical form of product:
Liquid, vapour pressure > 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
Handle substance within a closed system.
Avoid carrying out activities involving exposure for more than 1 hour per day.

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

Personal protection
Wear suitable gloves tested to EN374.
Use eye protection according to EN 166.
Wear a respirator conforming to EN140.

5.2. CS9: Worker Contributing Scenario: General use from professional operators (PROC19)

Process Categories	Manual activities involving hand contact (PROC19)

Product (article) characteristics

Physical form of product:
Liquid, vapour pressure > 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
Handle substance within a closed system.
Avoid carrying out activities involving exposure for more than 1 hour per day.
Limit the substance content in the product to 25 %.

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

Personal protection
Wear suitable gloves tested to EN374.
Use eye protection according to EN 166.

Wear a respirator conforming to EN140.

5.3 Exposure estimation and reference to its source

5.3. CS2: Worker Contributing Scenario: General use from professional operators (PROC1)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	0.01 ppm	ECETOC TRA worker v2.0	2E-05
dermal, systemic, long-term	0.34 mg/kg bw/day	ECETOC TRA worker v2.0	0.002

5.3. CS3: Worker Contributing Scenario: General use from professional operators (PROC2)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	50 ppm	ECETOC TRA worker v2.0	0.1
dermal, systemic, long-term	1.37 mg/kg bw/day	ECETOC TRA worker v2.0	0.01

5.3. CS4: Worker Contributing Scenario: General use from professional operators (PROC3)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	100 ppm	ECETOC TRA worker v2.0	0.2
dermal, systemic, long-term	0.34 mg/kg bw/day	ECETOC TRA worker v2.0	0.002

5.3. CS5: Worker Contributing Scenario: General use from professional operators (PROC4, PROC8b, PROC9)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	250 ppm	ECETOC TRA worker v2.0	0.5
dermal, systemic, long-term	6.86 mg/kg bw/day	ECETOC TRA worker v2.0	0.04

5.3. CS6: Worker Contributing Scenario: General use from professional operators (PROC5, PROC8a)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	100 ppm	ECETOC TRA worker v2.0	0.2
dermal, systemic, long-term	13.71 mg/kg bw/day	ECETOC TRA worker v2.0	0.07

5.3. CS7: Worker Contributing Scenario: General use from professional operators (PROC10)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)

inhalative, systemic, long-term	100 ppm	ECETOC TRA worker v2.0	0.2
dermal, systemic, long-term	27.43 mg/kg bw/day	ECETOC TRA worker v2.0	0.15

5.3. CS8: Worker Contributing Scenario: General use from professional operators (PROC11)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	300 ppm	ECETOC TRA worker v2.0	0.6
dermal, systemic, long-term	107.14 mg/kg bw/day	ECETOC TRA worker v2.0	0.58

5.3. CS9: Worker Contributing Scenario: General use from professional operators (PROC19)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	300 ppm	ECETOC TRA worker v2.0	0.6
dermal, systemic, long-term	16.97 mg/kg bw/day	ECETOC TRA worker v2.0	0.09

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, PC3, PC4, PC24)

6.1 TITLE SECTION

Exposure Scenario name	Cleaning agent
Date - Version	28/08/2019 - 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) - Air care products (PC3) - Anti-freeze and de-icing products (PC4) - Lubricants, greases, release products (PC24) - Polymer preparations and compounds (PC32) - Washing and cleaning products (PC35) - Welding and soldering products, flux products (PC38)

Environment Contributing Scenario	
CS1 Covered by	ERC8d

Consumer Contributing Scenario	
CS2 Consumer	PC3
CS3 Consumer	PC3
CS4 Consumer	PC4
CS5 Consumer	PC4
CS6 Consumer	PC4
CS7 Consumer	PC9a
CS8 Consumer	PC9a
CS9 Consumer	PC9a
CS10 Consumer	PC9a
CS11 Consumer	PC9b
CS12 Consumer	PC9b
CS13 Consumer	PC9b
CS14 Consumer	PC9c
CS15 Consumer	PC24
CS16 Consumer	PC24
CS17 Consumer	PC24
CS18 Consumer	PC35
CS19 Consumer	PC35
CS20 Consumer	PC38

6.2 Conditions of use affecting exposure

6.2. CS1: Environment Contributing Scenario: Covered by (ERC8d)

Environmental release	Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor)

categories	(ERC8d)

Amount used, frequency and duration of use (or from service life)

Release type: Continuous release

Emission days: 360 days per year

Conditions and measures related to treatment of waste (including article waste)

Waste treatment

External treatment and disposal of waste should comply with applicable local and/or national regulations.

6.2. CS2: Consumer Contributing Scenario: Consumer (PC3)

Product Categories	Air care products (PC3)

Product (article) characteristics

Physical form of product:

Aerosol

Concentration of substance in product:

Covers concentrations up to 50 %

Amount used, frequency and duration of use/exposure

Amounts used:

Amount per use 0.1 g

Duration:

Exposure duration 0.25 h

Frequency:

Covers exposure up to 365 days per year

Other conditions affecting consumers exposure

Room size: Covers use in room size of 20 m^3

Temperature: Covers use at ambient temperatures.

Ventilation rate: Covers use under typical household ventilation.

Additional conditions human health

Covers skin contact area up to 6600 cm^2

6.2. CS3: Consumer Contributing Scenario: Consumer (PC3)

Product Categories	Air care products (PC3)

Product (article) characteristics

Physical form of product:

Liquid

Vapour pressure:

240 hPa

Concentration of substance in product:

Covers percentage substance in the product up to 1 %.

Amount used, frequency and duration of use/exposure

Amounts used:

Amount per use 0.48 g

Duration:

Exposure duration 8 h

Frequency:

Covers exposure up to 365 days per year

Other conditions affecting consumers exposure

Room size: Covers use in room size of 20 m³
Temperature: Covers use at ambient temperatures.
Ventilation rate: Covers use under typical household ventilation.

Additional conditions human health

Covers skin contact area up to 35.7 cm²

6.2. CS4: Consumer Contributing Scenario: Consumer (PC4)

Product Categories	Anti-freeze and de-icing products (PC4)

Product (article) characteristics

Physical form of product:

Liquid

Vapour pressure:

240 hPa

Concentration of substance in product:

Covers percentage substance in the product up to 1 %.

Amount used, frequency and duration of use/exposure

Amounts used:

Amount per use 0.5 g

Duration:

Exposure duration 0.02 h

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.

6.2. CS5: Consumer Contributing Scenario: Consumer (PC4)

Product Categories	Anti-freeze and de-icing products (PC4)

Product (article) characteristics

Physical form of product:

Liquid

Vapour pressure:

240 hPa

Concentration of substance in product:

Covers concentrations up to 10 %

Amount used, frequency and duration of use/exposure

Amounts used:

Amount per use 2400 g

Duration:

Exposure duration 0.17 h

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.

Additional conditions human health

Covers skin contact area up to 428 cm²

6.2. CS6: Consumer Contributing Scenario: Consumer (PC4)

Product Categories	Anti-freeze and de-icing products (PC4)

Product (article) characteristics

Physical form of product:
Liquid

Vapour pressure:
240 hPa

Concentration of substance in product:
Covers concentrations up to 50 %

Amount used, frequency and duration of use/exposure

Amounts used:
Amount per use 4 g

Duration:
Exposure duration 0.25 h

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.

Additional conditions human health
Covers skin contact area up to 214.4 cm²

6.2. CS7: Consumer Contributing Scenario: Consumer (PC9a)

Product Categories	Coatings and paints, thinners, paint removers (PC9a)

Product (article) characteristics

Physical form of product:
Liquid

Vapour pressure:
240 hPa

Concentration of substance in product:
Covers concentrations up to 1.5 %

Amount used, frequency and duration of use/exposure

Amounts used:
Amount per use 2760 g

Duration:
Exposure duration 2.2 h

Frequency:
Covers exposure up to 4 days per year

Other conditions affecting consumers exposure

Room size: Covers use in room size of 20 m³
Temperature: Covers use at ambient temperatures.
Ventilation rate: Covers use under typical household ventilation.

Additional conditions human health
Covers skin contact area up to 428.75 cm²

6.2. CS8: Consumer Contributing Scenario: Consumer (PC9a)

Product Categories	Coatings and paints, thinners, paint removers (PC9a)

Product (article) characteristics

Physical form of product:
Liquid

Vapour pressure:
240 hPa

Concentration of substance in product:
Covers concentrations up to 27.5 %

Amount used, frequency and duration of use/exposure

Amounts used:
Amount per use 744 g

Duration:
Exposure duration 2.2 h

Frequency:
Covers exposure up to 6 days per year

Other conditions affecting consumers exposure

Room size: Covers use in room size of 20 m^3
Temperature: Covers use at ambient temperatures.
Ventilation rate: Covers use under typical household ventilation.

Additional conditions human health
Covers skin contact area up to 428.75 cm^2

6.2. CS9: Consumer Contributing Scenario: Consumer (PC9a)

Product Categories	Coatings and paints, thinners, paint removers (PC9a)

Product (article) characteristics

Physical form of product:
Aerosol

Concentration of substance in product:
Covers concentrations up to 50 %

Amount used, frequency and duration of use/exposure

Amounts used:
Amount per use 215 g

Duration:
Exposure duration 0.33 min

Frequency:
Covers exposure up to 2 days per year

Other conditions affecting consumers exposure

Room size: Covers use in a one car garage (>34 m^3) under typical ventilation.

Additional conditions human health
Covers skin contact area up to 6600 cm^2

6.2. CS10: Consumer Contributing Scenario: Consumer (PC9a)

Product Categories	Coatings and paints, thinners, paint removers (PC9a)

Product (article) characteristics

Physical form of product:
Liquid

Vapour pressure:
240 hPa

Concentration of substance in product:
Covers concentrations up to 50 %

Amount used, frequency and duration of use/exposure

Amounts used:
Amount per use 491 g

Duration:
Exposure duration 2 h

Frequency:
Covers exposure up to 3 days per year

Other conditions affecting consumers exposure

Room size: Covers use in room size of 20 m³
Temperature: Covers use at ambient temperatures.
Ventilation rate: Covers use under typical household ventilation.

Additional conditions human health
Covers skin contact area up to 857.5 cm²

6.2. CS11: Consumer Contributing Scenario: Consumer (PC9b)

Product Categories	Fillers, putties, plasters, modelling clay (PC9b)

Product (article) characteristics

Physical form of product:
Liquid

Vapour pressure:
240 hPa

Concentration of substance in product:
Covers concentrations up to 2 %

Amount used, frequency and duration of use/exposure

Amounts used:
Amount per use 85 g

Duration:
Exposure duration 4 h

Frequency:
Covers exposure up to 12 days per year

Other conditions affecting consumers exposure

Room size: Covers use in room size of 20 m³
Temperature: Covers use at ambient temperatures.
Ventilation rate: Covers use under typical household ventilation.

Additional conditions human health
Covers skin contact area up to 35.73 cm²

6.2. CS12: Consumer Contributing Scenario: Consumer (PC9b)

Product Categories	Fillers, putties, plasters, modelling clay (PC9b)

Product (article) characteristics

Physical form of product:
Liquid

Vapour pressure:
240 hPa

Concentration of substance in product:
Covers concentrations up to 2 %

Amount used, frequency and duration of use/exposure

Amounts used:
Amount per use 13800 g

Duration:
Exposure duration 2 h

Frequency:
Covers exposure up to 12 days per year

Other conditions affecting consumers exposure

Room size: Covers use in room size of 20 m³
Temperature: Covers use at ambient temperatures.
Ventilation rate: Covers use under typical household ventilation.

Additional conditions human health
Covers skin contact area up to 857.5 cm²

6.2. CS13: Consumer Contributing Scenario: Consumer (PC9b)

Product Categories	Fillers, putties, plasters, modelling clay (PC9b)

Product (article) characteristics

Physical form of product:
Solid in solution

Concentration of substance in product:
Covers percentage substance in the product up to 1 %.

Amount used, frequency and duration of use/exposure

Amounts used:
Amount per use 1 g

Duration:
Exposure duration 8 h

Frequency:
Covers exposure up to 365 days per year

Other conditions affecting consumers exposure

Room size: Covers use in room size of 20 m³
Temperature: Covers use at ambient temperatures.
Ventilation rate: Covers use under typical household ventilation.

Additional conditions human health
Covers skin contact area up to 254.4 cm²

6.2. CS14: Consumer Contributing Scenario: Consumer

Product (Sub-)Categories	Finger paints (PC9c)

Product (article) characteristics

Physical form of product:
Liquid

Vapour pressure:
240 hPa

Concentration of substance in product:
Covers concentrations up to 50 %

Amount used, frequency and duration of use/exposure

Amounts used:
Amount per use 1.35 g

Duration:
Exposure duration 8 h

Frequency:
Covers exposure up to 365 days per year

Other conditions affecting consumers exposure

Room size: Covers use in room size of 20 m^3
Temperature: Covers use at ambient temperatures.
Ventilation rate: Covers use under typical household ventilation.

Additional conditions human health
Covers skin contact area up to 254.4 cm^2
Avoid using at a product concentration greater than .... 5 %

6.2. CS15: Consumer Contributing Scenario: Consumer (PC24)

Product Categories	Lubricants, greases, release products (PC24)

Product (article) characteristics

Physical form of product:
Liquid

Vapour pressure:
240 hPa

Concentration of substance in product:
Covers percentage substance in the product up to 100 %.

Amount used, frequency and duration of use/exposure

Amounts used:
Amount per use 2200 g

Duration:
Exposure duration 0.17 h

Frequency:
Covers exposure up to 4 days per year

Other conditions affecting consumers exposure

Room size: Covers use in a one car garage (>34 m^3) under typical ventilation.

Additional conditions human health
Covers skin contact area up to 468 cm^2

6.2. CS16: Consumer Contributing Scenario: Consumer (PC24)

Product Categories	Lubricants, greases, release products (PC24)

Product (article) characteristics

Physical form of product:
Liquid

Vapour pressure:

240 hPa

Concentration of substance in product:
Covers concentrations up to 20 %

Amount used, frequency and duration of use/exposure

Amounts used:
Amount per use 34 g

Duration:
Exposure duration 8 h

Frequency:
Covers exposure up to 10 days per year

Other conditions affecting consumers exposure

Room size: Covers use in room size of 20 m³
Temperature: Covers use at ambient temperatures.
Ventilation rate: Covers use under typical household ventilation.

Additional conditions human health
Covers skin contact area up to 468 cm²

6.2. CS17: Consumer Contributing Scenario: Consumer (PC24)

Product Categories	Lubricants, greases, release products (PC24)

Product (article) characteristics

Physical form of product:
Aerosol

Concentration of substance in product:
Covers concentrations up to 50 %

Amount used, frequency and duration of use/exposure

Amounts used:
Amount per use 73 g

Duration:
Exposure duration 0.17 h

Frequency:
Covers exposure up to 6 days per year

Other conditions affecting consumers exposure

Room size: Covers use in room size of 20 m³
Temperature: Covers use at ambient temperatures.
Ventilation rate: Covers use under typical household ventilation.

Additional conditions human health
Covers skin contact area up to 428.75 cm²

6.2. CS18: Consumer Contributing Scenario: Consumer (PC35)

Product Categories	Washing and cleaning products (PC35)

Product (article) characteristics

Physical form of product:
Liquid

Vapour pressure:
240 hPa

Concentration of substance in product:

Covers percentage substance in the product up to 5 %.

Amount used, frequency and duration of use/exposure

Amounts used:

Amount per use 15 g

Duration:

Exposure duration 0.5 h

Frequency:

Covers exposure up to 365 days per year

Other conditions affecting consumers exposure

Room size: Covers use in room size of 20 m³

Temperature: Covers use at ambient temperatures.

Ventilation rate: Covers use under typical household ventilation.

Additional conditions human health

Covers skin contact area up to 857.5 cm²

6.2. CS19: Consumer Contributing Scenario: Consumer (PC35)

Product Categories	Washing and cleaning products (PC35)

Product (article) characteristics

Physical form of product:

Liquid

Vapour pressure:

240 hPa

Concentration of substance in product:

Covers percentage substance in the product up to 5 %.

Amount used, frequency and duration of use/exposure

Amounts used:

Amount per use 27 g

Duration:

Exposure duration 0.33 h

Frequency:

Covers exposure up to 128 days per year

Other conditions affecting consumers exposure

Room size: Covers use in room size of 20 m³

Temperature: Covers use at ambient temperatures.

Ventilation rate: Covers use under typical household ventilation.

Additional conditions human health

Covers skin contact area up to 857.5 cm²

6.2. CS20: Consumer Contributing Scenario: Consumer (PC38)

Product Categories	Welding and soldering products, flux products (PC38)

Product (article) characteristics

Physical form of product:

Liquid

Vapour pressure:

240 hPa

Concentration of substance in product:

Covers concentrations up to 20 %

Amount used, frequency and duration of use/exposure

Amounts used:

Amount per use 12 g

Duration:

Exposure duration 1 h

Frequency:

Covers exposure up to 365 days per year

Other conditions affecting consumers exposure

Room size: Covers use in room size of 20 m³

Temperature: Covers use at ambient temperatures.

Ventilation rate: Covers use under typical household ventilation.

Additional conditions human health

Covers skin contact area up to 6600 cm²

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.