

Safety Data Sheet dated 14/11/2022, version 10

SECTION 1: Identification of the	substance/mixture and of the company/undertaking
1.1. Product identifier	
Mixture identification:	
Trade name:	DP1
Trade code:	31032
1.2. Relevant identified uses of the	ne substance or mixture and uses advised against
Recommended use:	·
Windscreen detergent	
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)	
Arexons S.p.A.	
Tel. +39 (0)2/924361 - Fax	(+39 (0)2/92436306
Competent person responsible for	or the safety data sheet:
arexons@arexons.it	,
1.4. Emergency telephone numb	er
Arexons S.p.A.	
Tel. +39 (0)2/924361 - Fax	(+39 (0)2/92436306
In England and Wales: NH	
In Scotland: NHS 24 - dial	
In Ireland: Beaumont Hosp	bital - National Poisons Information Centre 01 809 2166 (7days, 8:00 -
22:00)	
In South Africa: Poison Inf	ormation Helpline 0861 555 777
In Malta: emergency numb	

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture
EC regulation criteria 1272/2008 (CLP):

♦ Danger, Flam. Liq. 2, Highly flammable liquid and vapour.
♦ Warning, Eye Irrit. 2, Causes serious eye irritation.
Adverse physicochemical, human health and environmental effects: No other hazards
2.2. Label elements
Hazard pictograms:



Danger

Hazard statements:

H225 Highly flammable liquid and vapour.

H319 Causes serious eye irritation.

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.

31032/10 Page n. 1 of 12



P370+P378 In case of fire: Use foam for alcohols to extinguish. P403+P235 Store in a well-ventilated place. Keep cool. P501 Dispose of contents/container in accordance with applicable regulations. Special Provisions: PACK2 The packing must have tactive indications of danger for blind people. Special provisions according to Annex XVII of REACH and subsequent amendments: None Regulation (EC) nr 648/2004 (detergents). 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: >= 50% - < 60% ethanol REACH No.: 01-2119457610-43, CAS: 64-17-5, EC: 200-578-6 2.6/2 Flam. Liq. 2 H225 1.3/2 Eye Irrit. 2 H319 Specific Concentration Limits: C >= 50%: Eye Irrit. 2 H319 >= 5% - < 7% ethanediol; ethylene glycol REACH No.: 01-2119456816-28, Index number: 603-027-00-1, CAS: 107-21-1, EC: 203-473-3 3.1/4/Oral Acute Tox. 4 H302 3.9/2 STOT RE 2 H373 (kidneys) (oral) >= 1% - < 2% propan-2-ol; isopropyl alcohol; isopropanol REACH No.: 01-2119457558-25, Index number: 603-117-00-0, CAS: 67-63-0, EC: 200-661-7 2.6/2 Flam. Liq. 2 H225 1 3.3/2 Eye Irrit. 2 H319 1 3.8/3 STOT SE 3 H336 >= 0.05% - < 0.1% 2-methylpropan-2-ol; tert-butyl alcohol REACH No.: 01-2119444321-51, CAS: 75-65-0, EC: 200-889-7 2.6/2 Flam. Liq. 2 H225 1.1/4/Inhal Acute Tox. 4 H332 1 3.3/2 Eye Irrit. 2 H319 1.8/3 STOT SE 3 H335 >= 0.001% - < 0.005% sodium hydroxide; caustic soda REACH No.: 02-2119457892-27, Index number: 011-002-00-6, CAS: 1310-73-2, EC: 215-185-5 ♦ 2.16/1 Met. Corr. 1 H290 3.2/1A Skin Corr. 1A H314 Specific Concentration Limits: 0,5% <= C < 2%: Skin Irrit. 2 H315 0,5% <= C < 2%: Eye Irrit. 2 H319 31032/10 Page n. 2 of 12



2% <= C < 5%: Skin Corr. 1B H314 C >= 5%: Skin Corr. 1A H314

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:

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

In case of Inhalation:

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

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

None

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

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. To dust. Foam for alcohols Water spray. Not Recommended Extinguishing Media: Do not use direct water jets.

- 5.2. Special hazards arising from the substance or mixture Do not inhale explosion and combustion gases. Burning produces heavy smoke.
- 5.3. Advice for firefighters

Use suitable breathing apparatus .

Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Move undamaged containers from immediate hazard area if it can be done safely.

31032/10 Page n. 3 of 12



SECTION 6: Accidental release measures

- 6.1. Personal precautions, protective equipment and emergency procedures Wear personal protection equipment. Remove all sources of ignition. Remove persons to safety. See protective measures under point 7 and 8.
- 6.2. Environmental precautions Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains. Retain contaminated washing water and dispose it. In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities. Suitable material for taking up: absorbing material, organic, sand
- 6.3. Methods and material for containment and cleaning up Wash with plenty of water.
- 6.4. Reference to other sections
 - See also section 8 and 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling Avoid contact with skin and eyes, inhalation of vapours and mists. Don't use empty container before they have been cleaned. Before making transfer operations, assure that there aren't any incompatible material residuals in the containers. See also section 8 for recommended protective equipment. Advice on general occupational hygiene: 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 LGK class = 3 Always keep in a well ventilated place. 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 ethanol - CAS: 64-17-5 ACGIH - STEL: 1000 ppm - Notes: A3 - URT irr ethanediol; ethylene glycol - CAS: 107-21-1 EU - TWA(8h): 52 mg/m3, 20 ppm - STEL: 104 mg/m3, 40 ppm - Notes: Skin ACGIH - TWA(8h): 25 ppm - STEL: 50 ppm - Notes: (V), A4 - URT irr ACGIH - STEL: 10 mg/m3 - Notes: (I, H), A4 - URT irr propan-2-ol; isopropyl alcohol; isopropanol - CAS: 67-63-0 ACGIH - TWA(8h): 200 ppm - STEL: 400 ppm - Notes: A4, BEI - Eye and URT irr, CNS impair 2-methylpropan-2-ol; tert-butyl alcohol - CAS: 75-65-0 ACGIH - TWA(8h): 100 ppm - Notes: A4 - CNS impair sodium hydroxide; caustic soda - CAS: 1310-73-2 20101.10 - TWA: 2 mg/m3

31032/10 Page n. 4 of 12



ACGIH - STEL: Ceiling 2 mg/m3 - Notes: URT, eye, and skin irr 1-methoxy-2-propanol; monopropylene glycol methyl ether - CAS: 107-98-2 EU - TWA(8h): 375 mg/m3, 100 ppm - STEL: 563 mg/m3, 150 ppm - Notes: Skin ACGIH - TWA(8h): 184 ma/m3, 50 ppm - STEL: 368 ma/m3, 100 ppm - Notes: A4 - Eve and URT irr DNEL Exposure Limit Values ethanol - CAS: 64-17-5 Worker Professional: 1900 mg/m3 - Exposure: Human Inhalation - Frequency: Short Term (acute) Worker Professional: 950 mg/m3 - Exposure: Human Inhalation - Frequency: Long Term, systemic effects Worker Professional: 343 mg/kg - Exposure: Human Dermal - Frequency: Long Term, systemic effects propan-2-ol; isopropyl alcohol; isopropanol - CAS: 67-63-0 Consumer: 26 mg/kg - Exposure: Human Oral - Frequency: Long Term, systemic effects Worker Professional: 500 mg/m3 - Consumer: 89 mg/m3 - Exposure: Human Inhalation -Frequency: Long Term, systemic effects Worker Professional: 880 mg/kg - Consumer: 319 mg/kg - Exposure: Human Dermal -Frequency: Long Term, systemic effects sodium hydroxide; caustic soda - CAS: 1310-73-2 Worker Professional: 1 mg/m3 - Consumer: 1 mg/l - Exposure: Human Inhalation -Frequency: Long Term, local effects 1-methoxy-2-propanol; monopropylene glycol methyl ether - CAS: 107-98-2 Consumer: 3.3 mg/kg - Exposure: Human Oral - Frequency: Long Term, systemic effects Worker Professional: 369 mg/m3 - Consumer: 43.9 mg/m3 - Exposure: Human Inhalation -Frequency: Long Term, systemic effects Worker Professional: 50.6 mg/kg - Consumer: 18.1 mg/kg - Exposure: Human Dermal -Frequency: Long Term, systemic effects Worker Professional: 553.5 mg/m3 - Exposure: Human Inhalation - Frequency: Short Term, local effects **PNEC Exposure Limit Values** ethanol - CAS: 64-17-5 Target: Fresh Water - Value: 0.96 mg/l Target: Marine water - Value: 0.79 mg/l Target: Freshwater sediments - Value: 3.6 mg/kg Target: Marine water sediments - Value: 2.9 mg/kg Target: 09 - Value: 580 mg/l propan-2-ol; isopropyl alcohol; isopropanol - CAS: 67-63-0 Target: Fresh Water - Value: 140.9 mg/l Target: Marine water - Value: 140.9 mg/l Target: Freshwater sediments - Value: 552 mg/kg Target: Marine water sediments - Value: 552 mg/kg Target: Soil (agricultural) - Value: 28 mg/kg 1-methoxy-2-propanol; monopropylene glycol methyl ether - CAS: 107-98-2 Target: Fresh Water - Value: 10 mg/l Target: Freshwater sediments - Value: 52.3 mg/kg Target: Marine water - Value: 1 mg/l Target: Marine water sediments - Value: 5.2 mg/kg Target: Soil (agricultural) - Value: 4.59 mg/l 8.2. Exposure controls Eye protection: Use close fitting safety goggles, don't use eye lens. Protection for skin: No special precaution must be adopted for normal use. Protection for hands: Use protective gloves that provides comprehensive protection, e.g. P.V.C., neoprene or rubber. 31032/10

Page n. 5 of 12



Respiratory protection: Not needed for normal use. Thermal Hazards: None Environmental exposure controls: None Appropriate engineering controls: None

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Properties	Value	Method:	Notes:
Physical state:	Liquid		
Colour:	Light blue		
Odour:	Characteristic		
Melting point/freezing point:	N.A.		
Boiling point or initial boiling point and boiling range:	82°C		
Flammability:	Flam. Liq. 2, H225		
Lower and upper explosion limit:	N.A.		
Flash point:	22,5 °C		
Auto-ignition temperature:	N.A.		
Decomposition temperature:	N.A.		
pH:	10.5		
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:	0.904 g/cm3		
Relative vapour density:	N.A.		
	Particle cha	racteristics:	1



Particle size:	N.A.		
----------------	------	--	--

9.2. Other information No other relevant information

SECTION 10: Stability and reactivity

- 10.1. Reactivity
 - Stable under normal conditions
- 10.2. Chemical stability
- Stable under normal conditions
- 10.3. Possibility of hazardous reactions

It may generate flammable gases on contact with dithiocarbamates, mercaptans and other organic sulphides, elementary metals (alkalis, alkaline earth, powder alloys, vapours), and powerful reducing agents. It may generate toxic gases on contact with inorganic fluorides, halogenated organic substances, sulphides, nitrides, nitriles, organophosphates, and powerful oxidising agents.

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

10.4. Conditions to avoid

Stable under normal conditions.

10.5. Incompatible materials

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

10.6. Hazardous decomposition products None.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008 Toxicological information of the product: DP1 ML 500 a) acute toxicity Not classified Based on available data, the classification criteria are not met b) skin corrosion/irritation Not classified Based on available data, the classification criteria are not met c) serious eye damage/irritation 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 Not classified Based on available data, the classification criteria are not met i) STOT-repeated exposure

31032/10 Page n. 7 of 12



Not classified Based on available data, the classification criteria are not met i) aspiration hazard Not classified Based on available data, the classification criteria are not met Toxicological information of the main substances found in the product: ethanol - CAS: 64-17-5 d) respiratory or skin sensitisation: Test: Skin Sensitization - Route: Skin Negative e) germ cell mutagenicity: Test: Genotoxicity - Species: vitro Negative f) carcinogenicity: Test: Carcinogeneticy - Species: mam Positive g) reproductive toxicity: Test: NOAEL - Route: Inhalation - Species: Rat = 1600 Ppm propan-2-ol; isopropyl alcohol; isopropanol - CAS: 67-63-0 a) acute toxicity: Test: LD50 - Route: Oral - Species: Rat 4396-5500 mg/kg Test: LD50 - Route: Skin - Species: Rabbit 12870 mg/kg Test: LC50 - Route: Inhalation - Species: Rat 72.6 mg/l - Duration: 4h 1-methoxy-2-propanol; monopropylene glycol methyl ether - CAS: 107-98-2 a) acute toxicity: Test: LD50 - Route: Oral 5300 mg/kg Test: LD50 - Route: Skin 13000 mg/kg Test: LD50 - Route: Inhalation 54.6 mg/l - Duration: 4h propan-2-ol; isopropyl alcohol; isopropanol - CAS: 67-63-0 **OBSERVATIONS ON HUMAN SUBJECTS:** propan-1-ol (propyl alcohol): oral, woman (LDLo): 5700 mg/kg propan-2-ol (isopropyl alcohol): oral, man (LDLo): 5272 mg/kg

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. ethanol - CAS: 64-17-5

a) Aquatic acute toxicity: Endpoint: LC50 - Species: Fish 14.2 GL - Duration h: 96 Endpoint: LC50 - Species: Daphnia 29.6 GL - Duration h: 24 Endpoint: EC50 - Species: Algae 19000 mg/l - Duration h: 96 Endpoint: EC50 - Species: batteri 39.5 GL - Duration h: 4 b) Aquatic chronic toxicity: Endpoint: EC50 - Species: Fish 14536 mg/l - Duration h: 200 Endpoint: LC50 - Species: Daphnia 9248 mg/l - Duration h: 48 sodium hydroxide; caustic soda - CAS: 1310-73-2 a) Aquatic acute toxicity: Endpoint: EC50 - Species: Daphnia 40.4 mg/l - Duration h: 48 12.2. Persistence and degradability None 1-methoxy-2-propanol; monopropylene glycol methyl ether - CAS: 107-98-2 Biodegradability: Readily biodegradable 12.3. Bioaccumulative potential propan-2-ol; isopropyl alcohol; isopropanol - CAS: 67-63-0 Test: Kow - Partition coefficient 0.05

31032/10

Page n. 8 of 12



sodium hydroxide; caustic soda - CAS: 1310-73-2 Bioaccumulation: Not bioaccumulative

- 12.4. Mobility in soil sodium hydroxide; caustic soda - CAS: 1310-73-2 Mobility in soil: Not mobile
- 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.

SECTION 14: Transport information



14.1. UN number or ID number ADR-UN Number: IATA-UN Number:	1987 1987
IMDG-UN Number:	1987
14.2. UN proper shipping name	
ADR-Shipping Name:	ALCOHOLS, N.O.S. (vapour pressure at 50 °C more than 110 kPa)(ethanol, propan-2-ol; isopropyl alcohol; isopropanol)
IATA-Shipping Name:	ALCOHOLS, N.O.S. (vapour pressure at 50 °C more than 110
IMDG-Shipping Name:	kPa)(ethanol, propan-2-ol; isopropyl alcohol; isopropanol) ALCOHOLS, N.O.S. (vapour pressure at 50 °C more than 110 kPa)(ethanol, propan-2-ol; isopropyl alcohol; isopropanol)
14.3. Transport hazard class(es)	
ADR-Class:	3
ADR - Hazard identification nur	•
IATA-Class:	3
IATA-Label:	3
IMDG-Class:	3
Sea (IMO):	3. PG II
14.4. Packing group	
ADR-Packing Group:	11
IATA-Packing group:	11
IMDG-Packing group:	11
14.5. Environmental hazards	
ADR-Enviromental Pollutant:	No
IMDG-Marine pollutant:	No
IMDG-EmS:	F-E,
	S-D
14.6. Special precautions for user ADR-Subsidiary hazards:	_
ADR-S.P.:	274 601 640D
ADR-Transport category (Tunn	
22/10	

31032/10 Page n. 9 of 12



353 IATA-Passenger Aircraft: IATA-Subsidiary hazards: IATA-Cargo Aircraft: 364 IATA-S.P.: A3 A180 IATA-ERG: 3L IMDG-Subsidiary hazards: IMDG-Stowage and handling: Category A IMDG-Segregation: 14.7. Maritime transport in bulk according to IMO instruments N.A. Limited Quantity: 1 L Exempted Quantity: E2

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) 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 = 63.06 % Volatile Organic compounds - VOCs = 630.62 g/Kg Volatile Organic compounds - VOCs = 570.08 g/l Where applicable, refer to the following regulatory provisions : Directive 2012/18/EU (Seveso III) Regulation (EC) nr 648/2004 (detergents). Dir. 2004/42/EC (VOC directive) Provisions related to directive EU 2012/18 (Seveso III): Seveso III category according to Annex 1, part 1

Product belongs to category: P5c

31032/10 Page n. 10 of 12



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:

ethanol

propan-2-ol; isopropyl alcohol; isopropanol

SECTION 16: Other information

Text of phrases referred to under heading 3:

H225 Highly flammable liquid and vapour.

H319 Causes serious eye irritation.

H302 Harmful if swallowed.

H373 (kidneys) (oral) May cause damage to organs (kidneys) through prolonged or repeated exposure if swallowed.

H336 May cause drowsiness or dizziness.

H332 Harmful if inhaled.

H335 May cause respiratory irritation.

H290 May be corrosive to metals.

H314 Causes severe skin burns and eye damage.

H315 Causes skin irritation.

H226 Flammable liquid and vapour.

Hazard class and hazard category	Code	Description
Met. Corr. 1	2.16/1	Substance or mixture corrosive to metals, Category 1
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/Inhal	Acute toxicity (inhalation), Category 4
Acute Tox. 4	3.1/4/Oral	Acute toxicity (oral), Category 4
Skin Corr. 1A	3.2/1A	Skin corrosion, Category 1A
Skin Corr. 1B	3.2/1B	Skin corrosion, Category 1B
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

Paragraphs modified from the previous revision:

SECTION 3: Composition/information on ingredients SECTION 7: Handling and storage SECTION 8: Exposure controls/personal protection SECTION 12: Ecological information SECTION 14: Transport information



SECTION 16: Other 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
Flam. Liq. 2, H225	On basis of test data
Eye Irrit. 2, H319	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.

31032/10 Page n. 12 of 12



31032/10 Page n. 13 of 13

Exposure Scenario, 23/07/2019

Substance identity	
Chemical name	Etanolo
CAS No.	64-17-5
EINECS No.	200-578-6

Table of contents

- 1. **ES 1** Consumer use; Anti-freeze and de-icing products (PC4)
- 2. **ES 2** Consumer use; Various products (PC39, PC28)
- 3. **ES 3** Use at industrial site
- 4. **ES 4** Use at industrial site
- 5. **ES 5** Widespread use by professional workers
- 6. **ES 6** Widespread use by professional workers
- 7. **ES 7** Consumer use; Fuels (PC13)
- 8. **ES 8** Consumer use; Various products (PC1, PC3, PC8, PC18, PC23)

Consumer use; Anti-freeze and de-icing products (PC4) 1. ES 1 **1.1 TITLE SECTION Exposure Scenario name** Car care and maintenance products - De-icing and anti-icing applications 22/07/2019 - 1.0 **Date - Version** Life Cycle Stage Consumer use Main user group Consumer uses Sector(s) of use Consumer uses (SU21) **Product Categories** Anti-freeze and de-icing products (PC4) **Environment Contributing Scenario** CS1 Covered by ERC8d **Consumer Contributing Scenario** PC4 - PC4 1 CS2 Car Care - De-icing and anti-icing applications CS3 Car Care - De-icing and anti-icing applications PC4 - PC4 2 CS4 Car Care - De-icing and anti-icing applications PC4 - PC4_3 1.2 Conditions of use affecting exposure 1.2. CS1: Environment Contributing Scenario: Covered by (ERC8d) Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor) **Environmental release** categories (ERC8d) **Product (article) characteristics** Physical form of product: Liquid Vapour pressure: 5726 Pa Conditions and measures related to treatment of waste (including article waste) Waste treatment No specific measures identified. Other conditions affecting environmental exposure Local marine water dilution factor: 100 Local freshwater dilution factor: 10 1.2. CS2: Consumer Contributing Scenario: Car Care - De-icing and anti-icing applications (PC4) **Product Categories** Anti-freeze and de-icing products (PC4) **Product (Sub-)Categories** Washing car window (PC4_1) **Product (article) characteristics 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: Covers use up to 0.017 h/event

Frequency:

Other conditions affecting c	onsumers exposure
Room size: Covers use in a one car g Temperature: Covers use at ambien	arage (>34 m ³) under typical ventilation. t temperatures.
1.2. CS3: Consumer Contributi	ng Scenario: Car Care - De-icing and anti-icing applications (PC4)
Product Categories	Anti-freeze and de-icing products (PC4)
Product (Sub-)Categories	Pouring into radiator (PC4_2)
Product (article) characteri	stics
Concentration of substance in Covers concentrations up to 10 %	•
Amount used, frequency and	duration of use/exposure
Amounts used: Amount per use 2000 g	
Duration: Covers use up to 0.17 h/event Frequency: Covers use up to 1 uses per day	
Other conditions affecting c	onsumers exposure
Room size: Covers use in a one car g Temperature: Covers use at ambien	arage (>34 m³) under typical ventilation. t temperatures.
Additional conditions human h Covers skin contact area up to 482	
1.2. CS4: Consumer Contributi	ng Scenario: Car Care - De-icing and anti-icing applications (PC4)
Product Categories	Anti-freeze and de-icing products (PC4)
Product (Sub-)Categories	Lock de-icer (PC4_3)
Product (article) characteri	stics
Concentration of substance in Covers concentrations up to 50 %	•
Amount used, frequency and	duration of use/exposure
Amounts used: Amount per use 4 g	
Duration: Covers use up to 0.25 h/event Frequency: Covers use up to 1 uses per day	
Covers use up to 0.25 h/event Frequency:	onsumers exposure
Covers use up to 0.25 h/event Frequency: Covers use up to 1 uses per day Other conditions affecting co	arage (>34 m ³) under typical ventilation.
Covers use up to 0.25 h/event Frequency: Covers use up to 1 uses per day Other conditions affecting co Room size: Covers use in a one car g	arage (>34 m³) under typical ventilation. t temperatures. nealth
Covers use up to 0.25 h/event Frequency: Covers use up to 1 uses per day Other conditions affecting co Room size: Covers use in a one car g Temperature: Covers use at ambien Additional conditions human h Covers skin contact area up to 214	arage (>34 m³) under typical ventilation. t temperatures. nealth
Covers use up to 0.25 h/event Frequency: Covers use up to 1 uses per day Other conditions affecting co Room size: Covers use in a one car g Temperature: Covers use at ambien Additional conditions human H Covers skin contact area up to 214 1.3 Exposure estimat	arage (>34 m³) under typical ventilation. t temperatures. nealth cm²

protection target	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
freshwater	0.00443 mg/L	N/A	0.00461
freshwater sediment	0.0172 mg/kg bw/day	N/A	0.00467
marine water	0.000508 mg/L	N/A	0.000643
marine sediment	0.00194 mg/kg bw/day	N/A	0.00064
soil	0.00123 mg/kg bw/day	N/A	0.00724

1.2. CS2: Consumer Contributing Scenario: Car Care - De-icing and anti-icing applications (PC4)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
nhalative, systemic, long-term	0.000102 mg/m ³	N/A	8.94E-07
inhalative, local, short-term	0.000102 mg/m ³	N/A	8.94E-07
dermal, systemic, long-term	0 mg/kg bw/day	N/A	N/A
combined routes, systemic, long-term	N/A	N/A	8.94E-07

1.2. CS3: Consumer Contributing Scenario: Car Care - De-icing and anti-icing applications (PC4)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	1.84 mg/m³	N/A	0.0161
inhalative, local, short-term	1.84 mg/m³	N/A	0.0161
dermal, systemic, long-term	5.62 mg/kg bw/day	N/A	0.0272
combined routes, systemic, long-term	N/A	N/A	0.0434

1.2. CS4: Consumer Contributing Scenario: Car Care - De-icing and anti-icing applications (PC4)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	0.51 mg/m³	N/A	0.00447
inhalative, local, short-term	0.51 mg/m³	N/A	0.0447
dermal, systemic, long-term	14 mg/kg bw/day	N/A	0.0679
combined routes, systemic, long-term	N/A	N/A	0.0724

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.

Consumer use; Various products (PC39, PC28) 2. ES 2 **2.1 TITLE SECTION Exposure Scenario name** Cosumer other uses 22/07/2019 - 1.0 **Date - Version** Life Cycle Stage Consumer use Main user group Consumer uses Sector(s) of use Consumer uses (SU21) **Product Categories** Cosmetics, personal care products (PC39) - Perfumes, fragrances (PC28) **Environment Contributing Scenario** CS1 Covered by ERC8a **Consumer Contributing Scenario** CS2 Consumer PC39 - PC28 2.2 Conditions of use affecting exposure 2.2. CS1: Environment Contributing Scenario: Covered by (ERC8a) **Environmental release** Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) categories (ERC8a) **Product (article) characteristics Physical form of product:** Liquid Vapour pressure: 5726 Pa Conditions and measures related to treatment of waste (including article waste) Waste treatment No specific measures identified. 2.2. CS2: Consumer Contributing Scenario: Consumer (PC39, PC28) **Product Categories** Cosmetics, personal care products - Perfumes, fragrances (PC39, PC28) 2.3 Exposure estimation and reference to its source 2.3. CS1: Environment Contributing Scenario: Covered by (ERC8a)

protection target	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
freshwater	0.00236 mg/L	N/A	0.00246
freshwater sediment	0.00904 mg/kg bw/day	N/A	0.00246
marine water	0.000301 mg/L	N/A	0.000381
marine sediment	0.00115 mg/kg bw/day	N/A	0.00038
soil	0.00115 mg/kg bw/day	N/A	0.00676

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 Use at	t industrial site	
3.1 TITLE SECTION		
Exposure Scenario name	Solvent	
Date - Version		
	22/07/2019 - 1.0	
Life Cycle Stage	Use at industrial site	
Main user group	Industrial uses	
Sector(s) of use	Industrial uses (SU3)	
Environment Contributing Sce	nario	
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		PROC10
CS11 Industrial		PROC13
CS12 Industrial		PROC15
3.2 Conditions of use	affecting exposure	
3.2. CS1: Environment Contrib	uting Scenario: Covered by (ERC4)	
Environmental release categories	Use of non-reactive processing aid at industrial site (n	o inclusion into or onto article) (ERC4)
Product (article) characteri	stics	
Vapour pressure: < 10 kPa		
Amount used, frequency and	l duration of use (or from service life)	
Amounts used: Annual site tonnage 3000 t(onnes	s)/year	
Maximum allowable site tonn	age (MSafe): 124000 kg/day	
Release type: Continuous release		
Emission days: 300 days per year		
Technical and organisation	al conditions and measures	
Control measures to prevent r		

meat an emission to provide th	e required removal efficiency of (%):	ŀ	Air - minimum efficiency of: 90 %
Prevent discharge of undissolve	ed substance to or recover from onsite waster	water.	Nater - minimum efficiency of: 87 %
Conditions and measure	s related to sewage treatment pla	Int	
STP type: Municipal Sewage Treatmen STP effluent (m ³ /day): 2000			
Conditions and measure	s related to treatment of waste (in	ncluding article w	vaste)
Waste treatment			
Incineration, disposal or recycli Contain and dispose of waste a		Waste - minir	num efficiency of: 99.98 %
Other conditions affectir	ng environmental exposure		
Local marine water dilutio Local freshwater dilution f Receiving surface water flo	actor: 10		
Additional good practice	e advice. Obligations according to	Article 37(4) of R	EACH do not apply.
Additional Good Practice A Contain leaks or spills within	Advice: cabinets with removable trays.		
3.2. CS2: Worker Contribu	ting Scenario: Industrial (PROC1)		
Process Categories	Chemical production or refinery in processes with equivalent containr	-	-
Product (article) charac	teristics		
Physical form of product: Liquid Vapour pressure:			
< 10 kPa Concentration of substanc Covers percentage substance	-		
Amount used, frequency	and duration of use/exposure		
Duration: Covers daily exposures up to	8 hours		
Technical and organisat	ional conditions and measures		
Technical and organisation Use in contained systems Store substance within a close			
	s related to personal protection, h	ygiene and healt	h evaluation
Personal protection			
Use suitable eye protection.			
	ig worker exposure		
Other conditions affectin			
Other conditions affecting Temperature: Covers use at an			

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

Use in contained systems

Store substance within a closed system.

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

Personal protection

Use suitable eye protection.

Other conditions affecting worker exposure

Temperature: Covers use at ambient temperatures.

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

Process CategoriesManufacture 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

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

Use in contained systems Store substance within a closed system.

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

Personal protection

Use suitable eye protection.

Other conditions affecting worker exposure

Temperature: Covers use at ambient temperatures.

3.2. 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	
Concentration of substance in Covers percentage substance in t	•
Amount used, frequency and	l duration of use/exposure
Duration: Covers daily exposures up to 8 ho	purs
Technical and organisation	al conditions and measures
Technical and organisational r Use in contained systems Store substance within a closed sy	
Conditions and measures re	lated to personal protection, hygiene and health evaluation
Personal protection Use suitable eye protection.	
Other conditions affecting w	vorker exposure
Temperature: Covers use at ambier	it temperatures.
3.2. CS6: Worker Contributing	Scenario: Industrial (PROC5)
Process Categories	Mixing or blending in batch processes (PROC5)
Product (article) characteri	stics
Physical form of product: Liquid	
Vapour pressure: < 10 kPa	
Concentration of substance in Covers percentage substance in t	•
Amount used, frequency and	d duration of use/exposure
Duration: Covers daily exposures up to 8 ho	burs
Technical and organisation	al conditions and measures
Technical and organisational r Use in contained systems Store substance within a closed sy	
Conditions and measures re	lated to personal protection, hygiene and health evaluation
Personal protection Use suitable eye protection.	
Other conditions affecting w	vorker exposure
Temperature: Covers use at ambier	it temperatures.
3.2. CS7: Worker Contributing	Scenario: Industrial (PROC7)
Process Categories	Industrial spraying (PROC7)
Product (article) characteri	stics
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

Use in contained systems

Store substance within a closed system.

Provide a good standard of controlled ventilation (10 to 15 air changes per hour).

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

Personal protection

Use suitable eye protection.

Other conditions affecting worker exposure

Temperature: Covers use at ambient temperatures.

3.2. CS8: Worker Contribu	ting Scenario: Industrial (PROC8a)
Process Categories	Transfer of substance or mixture (charging and discharging) at non-dedicated facilities (PROC8a)
Product (article) charad	teristics
Physical form of product: Liquid	
Vapour pressure: < 10 kPa	
Concentration of substant Covers percentage substant	c e in product: e in the product up to 100 %.
Amount used, frequency	and duration of use/exposure
Duration: Covers daily exposures up to	o 8 hours
Technical and organisa	tional conditions and measures
Technical and organisatio Use in contained systems Store substance within a clos	
Conditions and measure	es related to personal protection, hygiene and health evaluation
Personal protection Use suitable eye protection.	
Other conditions affecti	ng worker exposure
Temperature: Covers use at an	nbient temperatures.
3.2. CS9: Worker Contribu	ting Scenario: Industrial (PROC8b)
Process Categories	Transfer of substance or mixture (charging and discharging) at dedicated facilities (PROC8b)
Product (article) charge	taristics

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 Use in contained systems Store substance within a closed system. Conditions and measures related to personal protection, hygiene and health evaluation **Personal protection** Use suitable eye protection. Other conditions affecting worker exposure Temperature: Covers use at ambient temperatures. 3.2. 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 **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** Use in contained systems Store substance within a closed system. Conditions and measures related to personal protection, hygiene and health evaluation **Personal protection** Use suitable eye protection. Other conditions affecting worker exposure Temperature: Covers use at ambient temperatures. 3.2. 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

Concentration of substance Covers percentage substance	-	
Amount used, frequency a	and duration of use/exposur	е
Duration: Covers daily exposures up to 8	8 hours	
Technical and organisation	onal conditions and measur	es
Technical and organisationa Use in contained systems Store substance within a closed		
Conditions and measures	related to personal protect	on, hygiene and health evaluation
Personal protection Use suitable eye protection.		
Other conditions affecting	y worker exposure	
Temperature: Covers use at amb	vient temperatures.	
3.2. CS12: Worker Contribut	ting Scenario: Industrial (PRO	(15)
Process Categories	Use as laboratory reagent (PF	
Product (article) characte		
Duration: Covers daily exposures up to 8	in the product up to 100 %. and duration of use/exposur B hours bonal conditions and measur al measures	
Conditions and measures	related to personal protect	on, hygiene and health evaluation
Personal protection Use suitable eye protection.		
Other conditions affecting	y worker exposure	
Temperature: Covers use at amb	ient temperatures.	
3.3 Exposure estimation	ation and reference t	o its source
	ributing Scenario: Covered by	
Polooso revito	Pologo rete	Polocco estimation method
Release route	Release rate	Release estimation method
Air		
7.01	0.98 %	N/A

N/A

0%

soil

protection target	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
wastewater treatment plant microbes	6.32 mg/L	N/A	0.0109
freshwater	0.577 mg/L	N/A	0.601
freshwater sediment	2.21 mg/kg bw/day	N/A	0.601
marine water	0.0635 mg/L	N/A	0.0804
marine sediment	0.0635 mg/kg bw/day	N/A	0.0805
soil	0.0525 mg/kg bw/day	N/A	0.309

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

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	9.6 mg/m³	N/A	< 0.01
dermal, systemic, long-term	0.03 mg/kg bw/day	N/A	< 0.01
combined routes, systemic, long-term	N/A	N/A	< 0.01

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

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	9.6 mg/m³	N/A	0.01
dermal, systemic, long-term	1.4 mg/kg bw/day	N/A	0.004
combined routes, systemic, long-term	N/A	N/A	0.0141

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

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	19 mg/m³	N/A	0.02
dermal, systemic, long-term	0.69 mg/kg bw/day	N/A	0.002
combined routes, systemic, long-term	N/A	N/A	0.0222

			trial (PROC4)	3.3. CS5: Worker Contributing Scenario: Indust
io (RCR)	Risk Characterization Ratio (F	Calculation method	Exposure level	Exposure route, Health effect, Exposure indicator
io	Risk Characterization Ratio	Calculation method	Exposure level	Exposure route, Health effect, Exposure indicator

inhalative, systemic, long-term	38 mg/m³	N/A	0.04
dermal, systemic, long-term	6.9 mg/kg bw/day	N/A	0.02
combined routes, systemic, long-term	N/A	N/A	0.0603

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

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	96 mg/m³	N/A	0.101
dermal, systemic, long-term	14 mg/kg bw/day	N/A	0.04
combined routes, systemic, long-term	N/A	N/A	0.141

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

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	140 mg/m³	N/A	0.151
dermal, systemic, long-term	43 mg/kg bw/day	N/A	0.125
combined routes, systemic, long-term	N/A	N/A	0.276

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

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	96 mg/m³	N/A	0.101
dermal, systemic, long-term	96 mg/kg bw/day	N/A	0.04
combined routes, systemic, long-term	N/A	N/A	0.141

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

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	48 mg/m³	N/A	0.05
dermal, systemic, long-term	14 mg/kg bw/day	N/A	0.04
combined routes, systemic, long-term	N/A	N/A	0.0904

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

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

inhalative, systemic, long-term	96 mg/m³	N/A	0.101
dermal, systemic, long-term	27 mg/kg bw/day	N/A	0.08
combined routes, systemic, long-term	N/A	N/A	0.181

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

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	96 mg/m³	N/A	0.101
dermal, systemic, long-term	14 mg/kg bw/day	N/A	0.04
combined routes, systemic, long-term	N/A	N/A	0.141

3.3. CS12: Worker Contributing Scenario: Industrial (PROC15)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	19 mg/m³	N/A	0.02
dermal, systemic, long-term	0.34 mg/kg bw/day	N/A	< 0.01
combined routes, systemic, long-term	N/A	N/A	0.0212

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 a	t industrial site		
4.1 TITLE SECTION			
Exposure Scenario name	Fuel		
Date - Version 22/07/2019 - 1.0			
Life Cycle Stage Use at industrial site			
Main user group Industrial uses			
Sector(s) of use			
Environment Contributing Sce	nario		
CS1 Covered by		ERC7	
Worker Contributing Scenario			
CS2 Industrial		PROC1	
CS3 Industrial		PROC2	
CS4 Industrial		PROC3	
CS5 Industrial		PROC8a	
CS6 Industrial		PROC8b	
CS7 Industrial		PROC15	
CS8 Industrial		PROC16	
4.2 Conditions of use	affecting exposure		
	outing Scenario: Covered by (ERC7)		
Environmental release categories	Use of functional fluid at industrial site (E	ERC7)	
Product (article) characteri	istics		
Physical form of product: Liquid			
<pre>Vapour pressure: < 10 kPa</pre>			
Amount used, frequency and	d duration of use (or from service li	fe)	
Amounts used: Annual site tonnage 20000 t(onn	es)/year		
Maximum allowable site tonn	age (MSafe): 14500000 kg/day		
Release type: Continuous release			
Emission days: 300 days per year			
Technical and organisation	al conditions and measures		
Control measures to prevent	releases		
Provide onsite wastewater removal	efficiency of ³ (%):	Water - minimum efficiency of: 87 %	
		1	

	es related to sewage treatment plant
STP type: Municipal Sewage Treatme Water - minimum efficienc STP effluent (m ³ /day): 20	y of: = 87 %
Conditions and measur	es related to treatment of waste (including article waste)
Waste treatment Product residual disposal co	mplies with applicable regulations.
Other conditions affect	ing environmental exposure
Local marine water diluti Local freshwater dilution Receiving surface water f	factor: 10
Additional good praction	ce advice. Obligations according to Article 37(4) of REACH do not apply.
Additional Good Practice Adequate closed storage fa	Advice: cilities (e.g., bulk storage tanks, intermediate bulk containers, drums) are required.
4.2. CS2: Worker Contrib	uting 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) chara	cteristics
	i ce in product: ce in the product up to 100 %.
Covers percentage substan	•
Covers percentage substan	ce in the product up to 100 %. <i>y and duration of use/exposure</i>
Covers percentage substan Amount used, frequenc Duration: Covers daily exposures up t	ce in the product up to 100 %. <i>y and duration of use/exposure</i>
Covers percentage substan Amount used, frequence Duration: Covers daily exposures up to Technical and organise	ce in the product up to 100 %. y and duration of use/exposure to 8 hours tional conditions and measures losed system.
Covers percentage substant Amount used, frequence Duration: Covers daily exposures up for Technical and organisation Handle substance within a co Store substance within a clo	ce in the product up to 100 %. y and duration of use/exposure to 8 hours tional conditions and measures losed system.
Covers percentage substant Amount used, frequence Duration: Covers daily exposures up to Technical and organisation Handle substance within a clo Store substance within a clo Conditions and measure	ce in the product up to 100 %. y and duration of use/exposure to 8 hours ational conditions and measures onal measures losed system. sed system. sees related to personal protection, hygiene and health evaluation
Covers percentage substant Amount used, frequence Duration: Covers daily exposures up for Technical and organisation Handle substance within a clo Store substance within a clo Conditions and measure Personal protection Use suitable eye protection	ce in the product up to 100 %. y and duration of use/exposure to 8 hours ational conditions and measures onal measures losed system. sed system. sees related to personal protection, hygiene and health evaluation
Covers percentage substant Amount used, frequence Duration: Covers daily exposures up for Technical and organisation Handle substance within a close Store substance within a close Conditions and measure Personal protection Use suitable eye protection. 4.2. CS3: Worker Contribute	ce in the product up to 100 %. y and duration of use/exposure to 8 hours ttional conditions and measures losed system. sed system. sed system.
Covers percentage substant Amount used, frequence Duration: Covers daily exposures up for Technical and organisation Handle substance within a close Store substance within a close Conditions and measure Personal protection Use suitable eye protection. 4.2. CS3: Worker Contribus Process Categories	<pre>ce in the product up to 100 %. y and duration of use/exposure to 8 hours ttional conditions and measures losed system. sed system. sed system. tes related to personal protection, hygiene and health evaluation uting Scenario: Industrial (PROC2) Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions (PROC2)</pre>
Covers percentage substant Amount used, frequence Duration: Covers daily exposures up to Technical and organisation Handle substance within a close Conditions and measure Personal protection Use suitable eye protection. 4.2. CS3: Worker Contribo Process Categories Product (article) chara	ce in the product up to 100 %. y and duration of use/exposure to 8 hours to 8 hours to and measures losed system. sed system. sed system. ters related to personal protection, hygiene and health evaluation tuting Scenario: Industrial (PROC2) Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions (PROC2) cteristics
Amount used, frequence Duration: Covers daily exposures up to Technical and organisation Handle substance within a clos Store substance within a clos Conditions and measur Personal protection Use suitable eye protection. 4.2. CS3: Worker Contribu Process Categories Product (article) chara Physical form of product:	ce in the product up to 100 %. y and duration of use/exposure to 8 hours to 8 hours to and measures losed system. sed system. sed system. ters related to personal protection, hygiene and health evaluation tuting Scenario: Industrial (PROC2) Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions (PROC2) cteristics
Covers percentage substant Amount used, frequence Duration: Covers daily exposures up to Technical and organisation Handle substance within a close Conditions and measure Personal protection Use suitable eye protection. 4.2. CS3: Worker Contrible Process Categories Product (article) charata Physical form of product: Liquid Vapour pressure: < 10 kPa Concentration of substant	ce in the product up to 100 %. y and duration of use/exposure to 8 hours ttional conditions and measures losed system. sed system. set related to personal protection, hygiene and health evaluation uting Scenario: Industrial (PROC2) Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions (PROC2) cteristics

Amount used, frequency and duration of use/exposure

Duration:	
Covers daily exposures up	
Technical and organisat	sational conditions and measures
Handle substance within a Store substance within a cl	a closed system.
Conditions and measu	res related to personal protection, hygiene and health evaluation
Personal protection Use suitable eye protection	n.
4.2. CS4: Worker Contril	buting 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) char	acteristics
Physical form of produce	t:
Vapour pressure: < 10 kPa	
Concentration of substa Covers percentage substa	ance in product: ance in the product up to 100 %.
Amount used, frequen	ncy and duration of use/exposure
Duration: Covers daily exposures up	p to 8 hours
Technical and organis	sational conditions and measures
Technical and organisat Handle substance within a Store substance within a cl	a closed system.
Conditions and measu	res related to personal protection, hygiene and health evaluation
Personal protection Use suitable eye protection	n.
4.2. CS5: Worker Contril	buting Scenario: Industrial (PROC8a)
Process Categories	Transfer of substance or mixture (charging and discharging) at non-dedicated facilities (PROC8a)
Product (article) char	racteristics
Physical form of product	:t:
Vapour pressure: < 10 kPa	
Concentration of substa Covers percentage substa	ance in product: ance in the product up to 100 %.
Amount used, frequen	ncy and duration of use/exposure
Duration: Covers daily exposures up	p to 8 hours
	sational conditions and measures
Technical and organis	
Technical and organisati Handle substance within a Store substance within a cl	cional measures a closed system.

Use suitable eye protection.	
4.2. CS6: Worker Contributin	ng Scenario: Industrial (PROC8b)
Process Categories	Transfer of substance or mixture (charging and discharging) at dedicated facilities (PROC8b)
Product (article) characte	eristics
Physical form of product: Liquid	
Vapour pressure: < 10 kPa	
Concentration of substance Covers percentage substance in	•
Amount used, frequency a	nd duration of use/exposure
Duration: Covers daily exposures up to 8	hours
	onal conditions and measures
Technical and organisationa Handle substance within a close Store substance within a closed	ed system.
Conditions and measures	related to personal protection, hygiene and health evaluation
Personal protection Use suitable eye protection.	
4.2. CS7: Worker Contributin	ng Scenario: Industrial (PROC15)
Process Categories	
riocess calegories	Use as laboratory reagent (PROC15)
Process Categories Product (article) characte	
Product (article) characte Physical form of product: Liquid	
Product (article) characte Physical form of product: Liquid Vapour pressure: < 10 kPa	in product:
Product (article) characte Physical form of product: Liquid Vapour pressure: < 10 kPa Concentration of substance Covers percentage substance in	in product:
Product (article) characte Physical form of product: Liquid Vapour pressure: < 10 kPa Concentration of substance Covers percentage substance in Amount used, frequency a Duration:	in product: n the product up to 100 %. and duration of use/exposure
Product (article) characte Physical form of product: Liquid Vapour pressure: < 10 kPa Concentration of substance Covers percentage substance in Amount used, frequency a Duration: Covers daily exposures up to 8	in product: n the product up to 100 %. and duration of use/exposure
Product (article) characte Physical form of product: Liquid Vapour pressure: < 10 kPa Concentration of substance Covers percentage substance in Amount used, frequency a Duration: Covers daily exposures up to 8 Technical and organisatio	in product: n the product up to 100 %. In duration of use/exposure hours ponal conditions and measures il measures ed system.
 Product (article) characte Physical form of product: Liquid Vapour pressure: < 10 kPa Concentration of substance Covers percentage substance in Amount used, frequency a Duration: Covers daily exposures up to 8 Technical and organisation Handle substance within a close Store substance within a closed 	in product: n the product up to 100 %. In duration of use/exposure hours ponal conditions and measures il measures ed system.
Product (article) characte Physical form of product: Liquid Vapour pressure: < 10 kPa Concentration of substance Covers percentage substance in Amount used, frequency a Duration: Covers daily exposures up to 8 Technical and organisation Handle substance within a close Store substance within a close Store substance within a close Conditions and measures Personal protection	in product: n the product up to 100 %. nd duration of use/exposure hours onal conditions and measures I measures ed system. system.
Product (article) characte Physical form of product: Liquid Vapour pressure: < 10 kPa Concentration of substance Covers percentage substance in Amount used, frequency a Duration: Covers daily exposures up to 8 Technical and organisation Handle substance within a closed Store substance within a closed Conditions and measures Personal protection Use suitable eye protection.	in product: n the product up to 100 %. nd duration of use/exposure hours onal conditions and measures I measures ed system. system.
Product (article) characte Physical form of product: Liquid Vapour pressure: < 10 kPa Concentration of substance Covers percentage substance in Amount used, frequency a Duration: Covers daily exposures up to 8 Technical and organisation Handle substance within a closed Store substance within a closed Conditions and measures Personal protection Use suitable eye protection.	in product: n the product up to 100 %. nd duration of use/exposure hours onal conditions and measures Il measures ed system. system. related to personal protection, hygiene and health evaluation
Product (article) characte Physical form of product: Liquid Vapour pressure: < 10 kPa Concentration of substance Covers percentage substance in Amount used, frequency a Duration: Covers daily exposures up to 8 Technical and organisation Handle substance within a closed Store substance within a closed Conditions and measures Personal protection Use suitable eye protection. 4.2. CS8: Worker Contributin	in product: n the product up to 100 %. nd duration of use/exposure hours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours phours p

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

Handle substance within a closed system.

Store substance within a closed system.

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

Personal protection

Use suitable eye protection.

4.3 Exposure estimation and reference to its source

4.3. CS1: Environment Contributing Scenario: Covered by (ERC7)

Release route	Release rate	Release estimation method	
Air	0.0025 %	N/A	
Water	1E-05 %	N/A	
soil	0 %	N/A	

protection target	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
wastewater treatment plant microbes	0.0421 mg/L	N/A	7.26E-05
freshwater	0.00657 mg/L	N/A	0.00684
freshwater sediment	0.00685 mg/kg bw/day	N/A	0.00685
marine water	0.00363 mg/L	N/A	0.00459
marine sediment	0.0139 mg/kg bw/day	N/A	0.00459
soil	0.00694 mg/kg bw/day	N/A	0.0408

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	0.019 mg/m³	N/A	< 0.001
dermal, systemic, long-term	0.03 mg/kg bw/day	N/A	< 0.001
combined routes, systemic, long-term	N/A	N/A	< 0.001

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	9.6 mg/m ³	N/A	0.01
dermal, systemic, long-term	1.4 mg/kg bw/day	N/A	0.004
combined routes, systemic, long-term	N/A	N/A	0.0222

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	19 mg/m³	N/A	0.02
dermal, systemic, long-term	0.69 mg/kg bw/day	N/A	0.002
combined routes, systemic, long-term	N/A	N/A	0.222

4.3. CS5: Worker Contributing Scenario: Industrial (PROC8a)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	96 mg/m³	N/A	0.101
dermal, systemic, long-term	14 mg/m³	N/A	0.04
combined routes, systemic, long-term	N/A	N/A	0.141

4.3. CS6: Worker Contributing Scenario: Industrial (PROC8b)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	48 mg/m³	N/A	0.05
dermal, systemic, long-term	14 mg/kg bw/day	N/A	0.04
combined routes, systemic, long-term	N/A	N/A	0.0904

4.3. CS7: Worker Contributing Scenario: Industrial (PROC15)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	19 mg/m³	N/A	0.02
dermal, systemic, long-term	0.34 mg/kg bw/day	N/A	< 0.001

combined routes, systemic, long-term	N/A	N/A	0.0112

4.3. CS8: Worker Contributing Scenario: Industrial (PROC16)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	9.6 mg/m³	N/A	0.01
dermal, systemic, long-term	0.34 mg/kg bw/day	N/A	< 0.001
combined routes, systemic, long-term	N/A	N/A	0.0111

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:

5. ES 5

Widespread use by professional workers

5.1 TITLE SECTION

3.1 IIILE SECTION			
Exposure Scenario name	Solvent		
Date - Version	23/07/2019 - 1.0		
Life Cycle Stage	Widespread use by professional workers		
Main user group	Professional uses		
Sector(s) of use	Professional uses (SU22)		
Environment Contributing Sce	nario		
CS1 Covered by		ERC8a - ERC8d	
Worker Contributing Scenario			
CS2 General use from professional operators PROC1			
CS3 General use from professional operators PROC2			
CS4 General use from professiona	PROC3		
CS5 General use from professiona	PROC4		
CS6 General use from professiona	PROC5 - PROC8a		
CS7 General use from professiona	al operators	PROC8b	
CS8 General use from professiona	al operators	PROC10	
CS9 General use from professiona	PROC11		
CS10 General use from profession	PROC11		
CS11 General use from professional operators PROC13			
CS12 General use from profession	CS12 General use from professional operators PROC19		

5.2 Conditions of use affecting exposure

5.2. CS1: Environment Contributing Scenario: Covered by (ERC8a, ERC8d)

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

Product (article) characteristics

Physical form of product:

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

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

Amounts used:

Annual site tonnage 0.1 t(onnes)/year

Maximum allowable site tonnage (MSafe): 715 kg/day

Release type: Continuous release

Emission days: 365 days per year

Technical and organisational conditions and measures

Treat air emission to provide	the required removal efficiency	r of (%):	Air - minimum efficiency of: 90 %		
Drovent discharge of undiscol	Prevent discharge of undissolved substance to or recover from onsite wastewater.				
Prevent discharge of undisso					
Conditions and measur	es related to treatment	of waste (includi	na article waste)		
Waste treatment					
Hazardous waste incineration	1	Waste - minimum effic	iency of: 99.98 %		
5.2. (S2: Worker Contrib	uting Scenario: General u	se from profession	al operators (PROC1)		
	-	-	process without likelihood of exposure or		
Process Categories	-	alent containment co	-		
Product (article) chara					
Physical form of product Liquid, vapour pressure 0,5					
Concentration of substar Covers percentage substar	nce in product: Ince in the product up to 100 %.				
Amount used, frequenc	y and duration of use/e	exposure			
Duration: Covers daily exposures up	to 8 hours				
Conditions and measur	es related to personal p	protection, hygien	e and health evaluation		
Personal protection Use suitable eye protection					
5.2. CS3: Worker Contrib	uting Scenario: General u	se from profession	al 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) chara	cteristics				
Physical form of product Liquid, vapour pressure 0,5	5 - 10 kPa at STP				
Concentration of substar Covers percentage substar	ice in the product up to 100 %.				
Amount used, frequenc	y and duration of use/e	exposure			
Duration: Covers daily exposures up	to 8 hours				
Conditions and measur	es related to personal p	protection, hygien	e and health evaluation		
Personal protection Use suitable eye protection					
5.2. CS4: Worker Contrib	uting Scenario: General u	se from profession	al operators (PROC3)		
Process Categories			al industry in closed batch processes with es with equivalent containment condition (PROC3		
Product (article) characteristics					

Concentration of substance in product:

Covers percentage substance in	the product up to 100 %.
Amount used, frequency an	d duration of use/exposure
Duration: Covers daily exposures up to 8 h	ours
Conditions and measures re	elated to personal protection, hygiene and health evaluation
Personal protection Use suitable eye protection.	
5.2. CS5: Worker Contributing	Scenario: General use from professional operators (PROC4)
Process Categories	Chemical production where opportunity for exposure arises (PROC4)
Product (article) character	istics
Physical form of product: Liquid, vapour pressure 0,5 - 10 l Concentration of substance in Covers percentage substance in	n product:
Amount used, frequency and	
Duration:	a auradon oj usoj enposure
Covers daily exposures up to 8 h	ours
	elated to personal protection, hygiene and health evaluation
Personal protection Use suitable eye protection.	
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) character	istics
Physical form of product: Liquid, vapour pressure 0,5 - 10	kPa at STP
Concentration of substance in Covers percentage substance in	•
Amount used, frequency an	d duration of use/exposure
Duration: Covers daily exposures up to 8 h	ours
Conditions and measures re	elated to personal protection, hygiene and health evaluation
Personal protection Use suitable eye protection.	
5.2. CS7: Worker Contributing	s Scenario: General use from professional operators (PROC8b)
Process Categories	Transfer of substance or mixture (charging and discharging) at dedicated facilities (PROC8b)
Product (article) character	istics
Physical form of product: Liquid, vapour pressure 0,5 - 10	
Concentration of substance in Covers percentage substance in	
Amount used, frequency an	d duration of use/exposure
Duration: Covers daily exposures up to 8 h	ours

Personal protection Use suitable eye protection.				
5.2. CS8: Worker Contributir	ng Scenario: General use from professional operators (PROC10)			
Process Categories Roller application or brushing (PROC10)				
Product (article) characte	ristics			
Physical form of product: Liquid, vapour pressure 0,5 - 10				
Concentration of substance Covers percentage substance in	•			
Amount used, frequency a	nd duration of use/exposure			
Duration: Covers daily exposures up to 8	hours			
Conditions and measures	related to personal protection, hygiene and health evaluation			
Personal protection Use suitable eye protection.				
5.2. CS9: Worker Contributir	ng Scenario: General use from professional operators (PROC11)			
Process Categories	Non industrial spraying (PROC11)			
Product (article) characte	ristics			
Concentration of substance Covers percentage substance in Amount used, frequency a	•			
Duration: Covers daily exposures up to 8	hours			
Technical and organisatio	nal conditions and measures			
Technical and organisationa Provide a good standard of cont	l measures rolled ventilation (10 to 15 air changes per hour).			
Conditions and measures	related to personal protection, hygiene and health evaluation			
Personal protection Use suitable eye protection. Wear suitable gloves tested to E	N374.			
Other conditions affecting	worker exposure			
Indoor use				
5.2. CS10: Worker Contributing Scenario: General use from professional operators (PROC11)				
Process Categories	Non industrial spraying (PROC11)			
Product (article) characte	ristics			
Physical form of product: Liquid, vapour pressure 0,5 - 10	D kPa at STP			
Concentration of substance Covers percentage substance in	•			
Amount used, frequency a	nd duration of use/exposure			
Duration: Covers daily exposures up to 8	hours			

Technical and organisation Provide a good standard of co		air changes per hour).		
		protection, hygiene and health evaluation		
Personal protection Use suitable eye protection. Wear suitable gloves tested to Wear a respirator conforming				
Other conditions affectin	ng worker exposure			
Outdoor use				
5.2. CS11: Worker Contrib	uting Scenario: General	use from professional operators (PROC13)		
Process Categories	Treatment of articles	s by dipping and pouring (PROC13)		
Product (article) charac	teristics			
Physical form of product: Liquid, vapour pressure 0,5 -	10 kPa at STP			
Concentration of substance Covers percentage substance	-			
Amount used, frequency	and duration of use/e	exposure		
Duration: Covers daily exposures up to	8 hours			
Conditions and measure	s related to personal p	protection, hygiene and health evaluation		
Personal protection Use suitable eye protection. Wear suitable gloves tested to	o EN374.			
5.2. CS12: Worker Contrib	uting Scenario: General	use from professional operators (PROC19)		
Process Categories Manual activities involving hand contact (PROC19)				
Product (article) charac	teristics			
Physical form of product: Liquid, vapour pressure 0,5 -				
Concentration of substance Covers percentage substance	•			
Amount used, frequency	and duration of use/e	exposure		
Duration: Covers daily exposures up to	8 hours			
Conditions and measure	s related to personal p	protection, hygiene and health evaluation		
Personal protection Use suitable eye protection. Wear suitable gloves tested to	o EN374.			
5.3 Exposure estim	nation and refere	nce to its source		
5.3. CS1: Environment Con	tributing Scenario: Cove	ered by (ERC8a, ERC8d)		
Release route	Release rate	Release estimation method		

Air	0.98 %	N/A
		,
Water	0.01 %	N/A

soil	0.01 %	N/A

protection target	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
wastewater treatment plant microbes	0.000173 mg/L	N/A	2.98E-07
freshwater	0.00238 mg/L	N/A	0.00248
freshwater sediment	0.00912 mg/kg bw/day	N/A	0.00248
marine sediment	0.000303 mg/L	N/A	0.000384
marine sediment	0.00116 mg/kg bw/day	N/A	0.000383
soil	0.00116 mg/kg bw/day	N/A	0.00682

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	0.019 mg/m³	N/A	< 0.001
dermal, systemic, long-term	0.03 mg/kg bw/day	N/A	< 0.001
combined routes, systemic, long-term	N/A	N/A	< 0.001

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	38 mg/m³	N/A	0.04
dermal, systemic, long-term	1.4 mg/kg bw/day	N/A	0.004
combined routes, systemic, long-term	N/A	N/A	0.0443

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	48 mg/m³	N/A	0.05
dermal, systemic, long-term	0.69 mg/kg bw/day	N/A	0.002
combined routes, systemic, long-term	N/A	N/A	0.0524

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

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	96 mg/m³	N/A	0.101
dermal, systemic, long-term	6.9 mg/kg bw/day	N/A	0.02
combined routes, systemic, long-term	N/A	N/A	0.121

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	190 mg/m³	N/A	0.202
dermal, systemic, long-term	14 mg/kg bw/day	N/A	0.04
combined routes, systemic, long-term	N/A	N/A	0.242

5.3. CS7: Worker Contributing Scenario: General use from professional operators (PROC8b)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	96 mg/m³	N/A	0.202
dermal, systemic, long-term	14 mg/kg bw/day	N/A	0.04
combined routes, systemic, long-term	N/A	N/A	0.141

5.3. CS8: 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	190 mg/m³	N/A	0.202
dermal, systemic, long-term	27 mg/kg bw/day	N/A	0.08
combined routes, systemic, long-term	N/A	N/A	0.282

5.3. CS9: 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	290 mg/m ³	N/A	0.303
dermal, systemic, long-term	21 mg/kg bw/day	N/A	0.062
combined routes, systemic, long-term	N/A	N/A	0.365

5.3. CS10: 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	67 mg/m³	N/A	0.071
dermal, systemic, long-term	21 mg/kg bw/day	N/A	0.062
combined routes, systemic, long-term	N/A	N/A	0.133

5.3. CS11: 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	190 mg/m³	N/A	0.202
dermal, systemic, long-term	2.7 mg/kg bw/day	N/A	0.008
combined routes, systemic, long-term	N/A	N/A	0.21

5.3. CS12: 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	190 mg/m³	N/A	0.202
dermal, systemic, long-term	28 mg/kg bw/day	N/A	0.082
combined routes, systemic, long-term	N/A	N/A	0.284

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:

6. ES 6 Widespread use by professional workers 6.1 TITLE SECTION Exposure Scenario name Fuel Date - Version 23/07/2019 - 1.0 Life Cycle Stage Widespread use by professional workers

main aber 8.04p		
Sector(s) of use	Professional uses (SU22)	
Environment Contributing Scenario		
CS1 Covered by ERC9a - ERC9b		ERC9a - ERC9b
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		PROC8a
CS6 General use from professiona	CS6 General use from professional operators	
CS7 General use from profession	al operators	PROC16

6.2 Conditions of use affecting exposure

6.2. CS1: Environment Contributing Scenario: Covered by (ERC9a, ERC9b)

Professional uses

Environmental release	Widespread use of functional fluid (indoor) - Widespread use of functional fluid (outdoor)
categories	(ERC9a, ERC9b)

Product (article) characteristics

Physical form of product:

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

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

Amounts used:

Main user group

Annual site tonnage 1 t(onnes)/year

Maximum allowable site tonnage (MSafe): 7190 kg/day

Release type: Continuous release

Emission days: 365 days per year

Technical and organisational conditions and measures

Control measures to prevent releases

Prevent discharge of undissolved substance to or recover from onsite wastewater.

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

Waste treatment

Product residual disposal complies with applicable regulations.

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

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

Product (article) characteristics					
Physical form of product: Liquid, vapour pressure 0,5 - 10	kPa at STP				
Concentration of substance in Covers percentage substance in	•				
Technical and organisation	al conditions and measures				
Technical and organisational Handle substance within a closed Store substance within a closed sp	system.				
Conditions and measures re	elated to personal protection, hygiene and health evaluation				
Personal protection Use suitable eye protection.					
6.2. CS3: Worker Contributing	s 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) character	istics				
Physical form of product: Liquid, vapour pressure 0,5 - 10	kPa at STP				
Concentration of substance in Covers percentage substance in	•				
Technical and organisation	al conditions and measures				
Technical and organisational Handle substance within a closed Store substance within a closed s	system.				
Conditions and measures re	elated to personal protection, hygiene and health evaluation				
Personal protection Use suitable eye protection.					
6.2. CS4: Worker Contributing	s 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) character	istics				
Physical form of product: Liquid, vapour pressure 0,5 - 10	kPa at STP				
Concentration of substance in Covers percentage substance in	•				
Technical and organisation	al conditions and measures				
Technical and organisational Handle substance within a closed Store substance within a closed sy	system.				
Conditions and measures related to personal protection, hygiene and health evaluation					
Personal protection Use suitable eye protection.					
6.2. CS5: Worker Contributing Scenario: General use from professional operators (PROC8a)					
Process Categories	Transfer of substance or mixture (charging and discharging) at non-dedicated facilities (PROC8a)				
Product (article) character	istics				
Physical form of product: Liquid, vapour pressure 0,5 - 10	kPa at STP				

Concentration of substance in product: Covers percentage substance in the product up to 100 %.				
Technical and organisational conditions and measures				
Technical and organisational r Handle substance within a closed Store substance within a closed sy	system.			
Conditions and measures re	elated to personal protecti	ion, hygiene and health evaluation		
Personal protection Use suitable eye protection.				
6.2. CS6: Worker Contributing	Scenario: General use from	professional operators (PROC8b)		
Process Categories	Transfer of substance or mixt	ure (charging and discharging) at dedicated facilities (PROC8b)		
Product (article) character	istics			
Physical form of product: Liquid, vapour pressure 0,5 - 10 k	«Pa at STP			
Concentration of substance in Covers percentage substance in t	the product up to 100 %.			
Technical and organisation		es		
Technical and organisational r Handle substance within a closed Store substance within a closed sy	system.			
Conditions and measures re	elated to personal protecti	ion, hygiene and health evaluation		
Personal protection Use suitable eye protection.				
6.2. CS7: Worker Contributing	Scenario: General use from	professional operators (PROC16)		
rocess Categories Use of fuels (PROC16)				
Product (article) character	istics			
Physical form of product: Liquid, vapour pressure 0,5 - 10 k	«Pa at STP			
Concentration of substance in Covers percentage substance in t	-			
Technical and organisation	al conditions and measur	es		
Technical and organisational in Handle substance within a closed Store substance within a closed sy	system.			
Conditions and measures related to personal protection, hygiene and health evaluation				
Personal protection Use suitable eye protection.				
6.3 Exposure estimation and reference to its source				
6.3. CS1: Environment Contrib	outing Scenario: Covered by	(ERC9a, ERC9b)		
Release route	Release rate	Release estimation method		
הכופמצי וטעופ	れてにはると てんしせ			
Air	0.01 % N/A			
Water	1E-05 % N/A			

soil	0 %	N/A	

6.3. 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	0.019 mg/m³	N/A	< 0.001
dermal, systemic, long-term	0.03 mg/kg bw/day	N/A	< 0.001
combined routes, systemic, long-term	N/A	N/A	< 0.001

6.3. 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	38 mg/m³	N/A	0.04
dermal, systemic, long-term	1.4 mg/kg bw/day	N/A	0.004
combined routes, systemic, long-term	N/A	N/A	0.0443

6.3. 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	48 mg/m³	N/A	0.05
dermal, systemic, long-term	0.69 mg/kg bw/day	N/A	0.002
combined routes, systemic, long-term	N/A	N/A	0.0524

6.3. CS5: Worker Contributing Scenario: General use from professional operators (PROC8a)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	190 mg/m³	N/A	0.202
dermal, systemic, long-term	14 mg/kg bw/day	N/A	0.04
combined routes, systemic, long-term	N/A	N/A	0.242

6.3. CS6: Worker Contributing Scenario: General use from professional operators (PROC8b)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	96 mg/m³	N/A	0.101
dermal, systemic, long-term	14 mg/kg bw/day	N/A	0.04

combined routes, systemic, long-term	N/A	N/A	0.141

6.3. CS7: Worker Contributing Scenario: General use from professional operators (PROC16)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	19 mg/m³	N/A	0.02
dermal, systemic, long-term	0.34 mg/kg bw/day	N/A	< 0.001
combined routes, systemic, long-term	N/A	N/A	0.0212

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:

7. ES 7 Consu	ımer use; Fuels (PC13)		
7.1 TITLE SECTION			
Exposure Scenario name	Fuel		
Date - Version	23/07/2019 - 1.0		
Life Cycle Stage	Consumer use		
Main user group	Consumer uses		
Sector(s) of use	Consumer uses (SU21)		
Product Categories	Fuels (PC13)		
Environment Contributing Sce	nario		
CS1 Covered by		ERC9b	
Consumer Contributing Scenar	rio		
CS2 Consumer		PC13 - PC13_1	
CS3 Consumer		PC13 - PC13_2	
CS4 Consumer		PC13 - PC13_3	
CS5 Consumer		PC13 - PC13_4	
7.2 Conditions of use	affecting exposure		
7.2. CS1: Environment Contrib	uting Scenario: Covered by (ERC9b)		
Environmental release categories	Widespread use of functional fluid (outdoor) (FR('9h)		
Product (article) characteristics			
Physical form of product: Liquid			
Vapour pressure: 5726 Pa			
Conditions and measures re	lated to treatment of waste (including article	waste)	
Waste treatment Product residual disposal complies	with applicable regulations.		
Other conditions affecting e	nvironmental exposure		
Local marine water dilution factor: 100 Local freshwater dilution factor: 10			
7.2. CS2: Consumer Contributing Scenario: Consumer (PC13)			
Product Categories	Fuels (PC13)		
Product (Sub-)Categories	Liquid: Automotive Refuelling (PC13_1)		
Product (article) characteristics			
Concentration of substance in Covers concentrations up to 85 %	•		
Amount used, frequency and duration of use/exposure			
Amounts used: Amount per use 37500 g			

-		
Duration: Exposure duration 0.05 h/event		
Frequency:		
Covers use up to 51 times per ye		
Other conditions affecting	consumers exposure	
Outdoor use		
Additional conditions human Covers skin contact area up to 21		
7.2. CS3: Consumer Contribut	ing Scenario: Consumer (PC13)	
Product Categories	Fuels (PC13)	
Product (Sub-)Categories	Liquid Scooter Refuelling (PC13_2)	
Product (article) character	istics	
Concentration of substance in Covers concentrations up to 85	•	
Amount used, frequency an	d duration of use/exposure	
Amounts used: Amount per use 37500 g		
Duration: Exposure duration 0.033 h/even Frequency: Covers use up to 51 times per ye		
Other conditions affecting	consumers exposure	
Outdoor use		
Additional conditions human Covers skin contact area up to 21		
	ing Scenario: Consumer (PC13)	
Product Categories	Fuels (PC13)	
Product (Sub-)Categories	Liquid, Garden equipment - Use (PC13_3)	
Product (article) character	Product (article) characteristics	
Concentration of substance in Covers concentrations up to 15	•	
Amount used, frequency an	d duration of use/exposure	
Amounts used: Amount per use 750 g		
Duration: Exposure duration 2 h/event Frequency: Covers use up to 25 times per ye	ear	
Other conditions affecting	consumers exposure	
Outdoor use		
Additional conditions human Covers skin contact area up to 21		
7.2. CS5: Consumer Contribut	ing Scenario: Consumer (PC13)	
Product Categories	Fuels (PC13)	

Product	(Sub-)Categories
---------	------------------

Liquid: Garden equipment - Refuelling (PC13_4)

Product (article) characteristics

Concentration of substance in product:

Covers concentrations up to 85 %

Amount used, frequency and duration of use/exposure

Amounts used:

Amount per use 750 g

Duration:

Exposure duration 0.05 h/event

Frequency:

Covers use up to 25 times per year

Other conditions affecting consumers exposure

Room size: Covers use in a one car garage (>34 m³) under typical ventilation. **Temperature:** Covers use at ambient temperatures.

Additional conditions human health

Covers skin contact area up to 210 cm²

7.3 Exposure estimation and reference to its source

7.3. CS1: Environment Contributing Scenario: Covered by (ERC9b)

protection target	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
freshwater	0.0236 mg/L	N/A	0.00246
freshwater sediment	0.00905 mg/kg bw/day	N/A	0.00246
marine water	0.0003 mg/L	N/A	0.00038
marine sediment	0.0015 mg/kg bw/day	N/A	0.00038
marine sediment	0.0015 mg/kg bw/day	N/A	0.00676

7.2. CS2: Consumer Contributing Scenario: Consumer (PC13)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	0.187 mg/m³	N/A	0.00164
inhalative, local, short-term	1.3 mg/m³	N/A	0.0114
dermal, systemic, long-term	0.117 mg/kg bw/day	N/A	8.1E-05
combined routes, systemic, long-term	N/A	N/A	0.0114

7.2. CS3: Consumer Contributing Scenario: Consumer (PC13)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	0.0612 mg/m ³	N/A	0.000544

inhalative, local, short-term	0.434 mg/m³	N/A	0.0038
dermal, systemic, long-term	0.117 mg/kg bw/day	N/A	8.1E-05
combined routes, systemic, long-term	N/A	N/A	0.00388

7.2. CS4: Consumer Contributing Scenario: Consumer (PC13)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	0.0764 mg/m ³	N/A	0.00067
inhalative, local, short-term	1.09 mg/m³	N/A	0.00956
dermal, systemic, long-term	4.13 mg/kg bw/day	N/A	0.0014
combined routes, systemic, long-term	N/A	N/A	0.0109

7.2. CS5: Consumer Contributing Scenario: Consumer (PC13)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	0.079 mg/m ³	N/A	0.000692
inhalative, local, short-term	1.12 mg/m³	N/A	0.00982
dermal, systemic, long-term	0.117 mg/kg bw/day	N/A	3.98E-05
combined routes, systemic, long-term	N/A	N/A	0.00986

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

Guidance to check compliance with the exposure scenario:

8. ES 8 Consumer use; Various products (PC1, PC3, PC8, PC18, PC23)

8.1 TITLE SECTION

8.1 TITLE SECTION			
Exposure Scenario name	Cosumer other uses		
Date - Version	23/07/2019 - 1.0		
Life Cycle Stage	Consumer use		
Main user group	Consumer uses		
Sector(s) of use	Consumer uses (SU21)		
Product Categories	Adhesives, sealants (PC1) - Air care products (PC3) - Biocidal products (PC8) - Ink and toners (PC18) - Leather treatment products (PC23) - Lubricants, greases, release products (PC24) - Plant protection products (PC27) - Polishes and wax blends (PC31) - Textile dyes and impregnating products (PC34)		
Environment Contributing S	cenario		
CS1 Covered by		ERC8a - ERC8d	
Consumer Contributing Scen	nario		
CS2 Consumer		PC1 - PC1_1	
CS3 Consumer		PC1 - PC1_3	
CS4 Consumer		PC1 - PC1_4	
CS5 Consumer		PC3 - PC3_1	
CS6 Consumer		PC3 - PC3_2	
CS7 Consumer		PC8 - PC35_1, PC8_1	
CS8 Consumer		PC8 - PC8_2, PC35_2	
CS9 Consumer		PC8 - PC8_3, PC35_3	
CS10 Consumer		PC18	
CS11 Consumer		PC23 - PC23_1, PC31_1	
CS12 Consumer		PC23 - PC23_2, PC31_2	
CS13 Consumer		PC24 - PC16_1, PC17_1, PC24_1, 36	
CS14 Consumer		PC27	
CS15 Consumer		PC31 - PC23_1, PC31_1	
CS16 Consumer		PC31 - PC23_2, PC31_2	
0.2 Conditions of us			

8.2 Conditions of use affecting exposure

8.2. CS1: Environment Contributing Scenario: Covered by (ERC8a, ERC8d)

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

Product (article) characteristics

Physical form of product:

Liquid, vapour pressure > 10 kPa at STP

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

Hazardous waste incineration		Waste - minimum efficiency of: 99.8 %
Other conditions affecting	g environmental expo	osure
Local marine water dilution	factor: 100	
Local freshwater dilution fa		
Receiving surface water flo 8.2. CS2: Consumer Contrib		mer (PC1)
Product Categories	Adhesives, sealants (
Product (Sub-)Categories	Glues, hobby use (PC	
		1_1)
Product (article) charact		
Covers concentrations up to 7	•	
Amount used, frequency o	and duration of use/e	exposure
Amounts used: Amount per use 50 g		
Duration: Exposure duration 4 h/event Frequency: Covers exposure up to 1 even	ts per day	
Other conditions affecting	g consumers exposur	e
Room size: Covers use in room si	ize of 20 m ³	
Additional conditions huma Covers skin contact area up to		
8.2. CS3: Consumer Contrib	outing Scenario: Consur	ner (PC1)
	Adhesives, sealants (PC1)	
Product Categories	Adhesives, sealants ((PC1)
Product Categories Product (Sub-)Categories	Adhesives, sealants (Glue from spray (PC1	
Product (Sub-)Categories	Glue from spray (PC1	
Product (Sub-)Categories Product (article) charact	Glue from spray (PC1 eristics e in product:	
Product (Sub-)Categories Product (article) charact Concentration of substance Covers concentrations up to 3	Glue from spray (PC1 eristics e in product: 30 %	L_3)
Product (Sub-)Categories Product (article) charact Concentration of substance Covers concentrations up to 3 Amount used, frequency of	Glue from spray (PC1 eristics e in product: 30 %	L_3)
Product (Sub-)Categories Product (article) charact Concentration of substance Covers concentrations up to 3 Amount used, frequency of Amounts used: Amount per use 50 g Duration:	Glue from spray (PC1 eristics e in product: 30 %	L_3)
Product (Sub-)Categories Product (article) charact Concentration of substance Covers concentrations up to 3 Amount used, frequency of Amounts used: Amount per use 50 g Duration: Exposure duration 4 h/event	Glue from spray (PC1 eristics in product: 30 % and duration of use/e	L_3)
Product (Sub-)Categories Product (article) charact Concentration of substance Covers concentrations up to 3 Amount used, frequency of Amounts used: Amount per use 50 g Duration: Exposure duration 4 h/event Frequency: Covers exposure up to 6 times	Glue from spray (PC1 eristics e in product: 30 % and duration of use/e	1_3) exposure
Product (Sub-)Categories Product (article) charact Concentration of substance Covers concentrations up to 3 Amount used, frequency of Amounts used: Amount per use 50 g Duration: Exposure duration 4 h/event Frequency:	Glue from spray (PC1 eristics in product: 30 % and duration of use/e s per year g consumers exposur	1_3) exposure
Product (Sub-)Categories Product (article) charact Concentration of substance Covers concentrations up to 3 Amount used, frequency of Amounts used: Amount per use 50 g Duration: Exposure duration 4 h/event Frequency: Covers exposure up to 6 times Other conditions affecting	Glue from spray (PC1 eristics e in product: 30 % and duration of use/e s per year g consumers exposur ize of 20 m ³ an health	1_3) exposure
Product (Sub-)Categories Product (article) charact Concentration of substance Covers concentrations up to 3 Amount used, frequency of Amounts used: Amount per use 50 g Duration: Exposure duration 4 h/event Frequency: Covers exposure up to 6 times Other conditions affecting Room size: Covers use in room size	Glue from spray (PC1 eristics e in product: 30 % and duration of use/e s per year g consumers exposur ize of 20 m ³ an health 35 cm ²	exposure

Product (article) characteri	Product (article) characteristics		
Concentration of substance in product:			
Covers concentrations up to 30 %			
Amount used, frequency and	l duration of use/exposure		
Amounts used: Amount per use 50 g			
Duration: Exposure duration 1 h/event Frequency: Covers exposure up to 1 events p	er dav		
Other conditions affecting c			
Room size: Covers use in room size of	-		
Additional conditions human I Covers skin contact area up to 35 o			
8.2. CS5: Consumer Contributi	ng Scenario: Consumer (PC3)		
Product Categories	Air care products (PC3)		
Product (Sub-)Categories	Air care, instant action (aerosol sprays) (PC3_1)		
Product (article) characteri	stics		
Concentration of substance in Covers concentrations up to 40 %	•		
Amount used, frequency and	l duration of use/exposure		
Amounts used: Amount per use 50 g			
Duration:			
Exposure duration 0.3 h/event Frequency: Covers exposure up to 4 events p	er dav		
Other conditions affecting c			
Room size: Covers use in room size of	of 20 m ³		
Additional conditions human l			
8.2. CS6: Consumer Contributi	ng Scenario: Consumer (PC3)		
Product Categories	Air care products (PC3)		
Product (Sub-)Categories	Air care, continuous action (solid and liquid) (PC3_2)		
Product (article) characteri	stics		
Concentration of substance in Covers concentrations up to 10 %			
Amount used, frequency and	l duration of use/exposure		
Amounts used: Amount per use 50 g			
Duration: Exposure duration 8 h/event Frequency:			

Covers exposure up to 1 events p	er day			
Other conditions affecting c	onsumers exposure			
Room size: Covers use in room size	-			
Additional conditions human	boalth			
Covers skin contact area up to 35				
8.2. CS7: Consumer Contributi	ng Scenario: Consumer (PC8)			
Product Categories	Biocidal products (PC8)			
Product (Sub-)Categories	Laundry and dish washing products (PC35_1, PC8_1)			
Product (article) characteri	istics			
Concentration of substance in Covers percentage substance in t	•			
Amount used, frequency and	d duration of use/exposure			
Amounts used: Amount per use 15 g				
Duration: Exposure duration 0.5 h/event Frequency: Covers exposure up to 1 events p	er day			
Other conditions affecting c	onsumers exposure			
Room size: Covers use in room size	of 20 m³			
Additional conditions human Covers skin contact area up to 857				
8.2. CS8: Consumer Contributi	ng Scenario: Consumer (PC8)			
Product Categories Biocidal products (PC8)				
Product (Sub-)CategoriesCleaners, liquids (all purpose cleaners, sanitary products, floor cleaners, glass cleaners, carpet cleaners, metal cleaners) (PC8_2, PC35_2)				
Product (article) characteristics				
Concentration of substance in Covers percentage substance in t	•			
Amount used, frequency and	d duration of use/exposure			
Amounts used: Amount per use 50 g				
Duration: Exposure duration 0.3 h/event Frequency: Covers exposure up to 125 times	per year			
Other conditions affecting c	onsumers exposure			
Room size: Covers use in room size	of 20 m³			
Additional conditions human Covers skin contact area up to 857				
8.2. CS9: Consumer Contributi	ng Scenario: Consumer (PC8)			
Product Categories	Biocidal products (PC8)			
Product (Sub-)Categories	Cleaners, trigger sprays (all purpose cleaners, sanitary products, glass cleaners) (PC8_3, PC35_3)			

Product (article) charact	reristics			
Concentration of substance Covers concentrations up to 2	•			
Amount used, frequency	and duration of use/exposure			
Amounts used: Amount per use 50 g				
Duration: Exposure duration 0.2 h/ever Frequency: Covers exposure up to 125 tin				
Other conditions affecting	g consumers exposure			
Room size: Covers use in room s Ventilation rate: Covers use un				
Additional conditions hum Covers skin contact area up to				
8.2. CS10: Consumer Contr	ibuting Scenario: Consumer (PC18)			
Product Categories	Ink and toners (PC18)			
Product (article) charact	eristics			
Concentration of substance Covers concentrations up to 9	•			
Amount used, frequency	and duration of use/exposure			
Amounts used: Amount per use 50 g				
Duration: Exposure duration 8 h/event Frequency:				
Covers exposure up to 1 uses				
Other conditions affecting Room size: Covers use in room s	ize of 20 m ³			
Ventilation rate: Covers use un	der typical household ventilation.			
Additional conditions hum Covers skin contact area up to				
8.2. CS11: Consumer Contr	ibuting Scenario: Consumer (PC23)			
Product Categories	Leather treatment products (PC23)			
Product (Sub-)Categories	Product (Sub-)Categories Polishes, wax/cream (floor, furniture, shoes) (PC23_1, PC31_1)			
Product (article) charact	<i>veristics</i>			
Concentration of substance Covers concentrations up to 9	•			
Amount used, frequency	and duration of use/exposure			
Amounts used: Amount per use 50 g				
Duration: Exposure duration 1.2 h/ever Frequency:				

Covers exposure up to 29 times per year

Other conditions affecting c	onsumers exposure
Room size: Covers use in room size Ventilation rate: Covers use under	of 20 m ³
Additional conditions human Covers skin contact area up to 430	
· · ·	ting Scenario: Consumer (PC23)
Product Categories	Leather treatment products (PC23)
Product (Sub-)Categories	Polishes, spray (furniture, shoes) (PC23_2, PC31_2)
Product (article) character	istics
Concentration of substance in Covers concentrations up to 20 %	
Amount used, frequency and	d duration of use/exposure
Amounts used: Amount per use 50 g	
Duration: Exposure duration 0.3 h/event Frequency: Covers exposure up to 8 times pe	er year
Other conditions affecting c	consumers exposure
Room size: Covers use in room size Ventilation rate: Covers use under	
Additional conditions human Covers skin contact area up to 430	
8.2. CS13: Consumer Contribu	ting Scenario: Consumer (PC24)
Product Categories	Lubricants, greases, release products (PC24)
Product (Sub-)Categories	Liquids (PC16_1, PC17_1, PC24_1, 36)
Product (article) character	istics
Concentration of substance in Covers concentrations up to 20 %	
Amount used, frequency and	d duration of use/exposure
Amounts used: Amount per use 50 g	
Duration: Exposure duration 0.2 h/event Frequency: Covers exposure up to 4 times pe	er year
Other conditions affecting c	consumers exposure
Room size: Covers use in room size Ventilation rate: Covers use under	
Additional conditions human Covers skin contact area up to 468	
· · ·	ting Scenario: Consumer (PC27)
Product Categories	Plant protection products (PC27)
Product (article) character	istics

Concentration of substance in	n product:
Covers concentrations up to 50	
Amount used, frequency an	nd duration of use/exposure
Amounts used: Amount per use 50 g	
Duration: Exposure duration 0.3 h/event Frequency: Covers exposure up to 29 times	per year
Other conditions affecting	consumers exposure
Room size: Covers use in room size Ventilation rate: Covers use under	
Additional conditions human Covers skin contact area up to 85	
8.2. CS15: Consumer Contribu	uting Scenario: Consumer (PC31)
Product Categories	Polishes and wax blends (PC31)
Product (Sub-)Categories	Polishes, wax/cream (floor, furniture, shoes) (PC23_1, PC31_1)
Product (article) character	ristics
Concentration of substance in Covers concentrations up to 50	
Amount used, frequency an	nd duration of use/exposure
Amounts used: Amount per use 50 g	
Duration: Exposure duration 1.2 h/event Frequency: Covers exposure up to 29 times	per year
Other conditions affecting	consumers exposure
Room size: Covers use in room size Ventilation rate: Covers use under	
Additional conditions human Covers skin contact area up to 43	
8.2. CS16: Consumer Contribu	uting Scenario: Consumer (PC31)
Product Categories	Polishes and wax blends (PC31)
Product (Sub-)Categories	Polishes, spray (furniture, shoes) (PC23_2, PC31_2)
Product (article) character	ristics
Concentration of substance i Covers concentrations up to 10	•
Amount used, frequency an	nd duration of use/exposure
Amounts used: Amount per use 50 g	
Duration: Exposure duration 0.3 h/event Frequency: Covers exposure up to 8 times p	er year

Other conditions affecting consumers exposure

Room size: Covers use in room size of 20 m³ **Ventilation rate:** Covers use under typical household ventilation.

Additional conditions human health

Covers skin contact area up to 430 cm²

8.3 Exposure estimation and reference to its source

8.3. CS1: Environment Contributing Scenario: Covered by (ERC8a, ERC8d)

protection target	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
wastewater treatment plant microbes	0.273 mg/L	N/A	0.000471
freshwater	0.0297 mg/L	N/A	0.0309
freshwater sediment	0.114 mg/kg bw/day	N/A	0.031
marine water	0.00304 mg/L	N/A	0.00385
marine sediment	0.0116 mg/kg bw/day	N/A	0.00383
soil	0.116 mg/kg bw/day	N/A	0.00676

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

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	111 mg/m³	N/A	0.973
inhalative, local, short-term	111 mg/m³	N/A	0.973
dermal, systemic, long-term	3.28 mg/kg bw/day	N/A	0.0159
combined routes, systemic, long-term	N/A	N/A	0.989

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

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	0.788 mg/m ³	N/A	0.00682
inhalative, local, short-term	47.3 mg/m ³	N/A	0.414
dermal, systemic, long-term	1.4 mg/kg bw/day	N/A	0.000112
combined routes, systemic, long-term	N/A	N/A	0.212

8.2. CS4: Consumer Contributing Scenario: Consumer (PC1)				
Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)	

inhalative, systemic, long-term	23.5 mg/m³	N/A	0.206
inhalative, local, short-term	23.5 mg/m³	N/A	0.206
dermal, systemic, long-term	1.4 mg/kg bw/day	N/A	0.00679
combined routes, systemic, long-term	N/A	N/A	0.212

8.2. CS5: Consumer Contributing Scenario: Consumer (PC3)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	38.7 mg/m³	N/A	0.339
inhalative, local, short-term	38.7 mg/m³	N/A	0.339
dermal, systemic, long-term	7.51 mg/kg bw/day	N/A	0.0364
combined routes, systemic, long-term	N/A	N/A	0.375

8.2. CS6: Consumer Contributing Scenario: Consumer (PC3)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	17.1 mg/m³	N/A	0.15
inhalative, local, short-term	17.1 mg/m³	N/A	0.15
dermal, systemic, long-term	0.469 mg/kg bw/day	N/A	0.00227
combined routes, systemic, long-term	N/A	N/A	0.152

8.2. CS7: Consumer Contributing Scenario: Consumer (PC8)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR
inhalative, systemic, long-term	0.672 mg/m ³	N/A	0.00589
inhalative, local, short-term	0.672 mg/m ³	N/A	0.00589
dermal, systemic, long-term	5.63 mg/kg bw/day	N/A	0.000273
combined routes, systemic, long-term	N/A	N/A	0.00616

8.2. CS8: Consumer Contributing Scenario: Consumer (PC8)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	0.543 mg/m³	N/A	0.00476
inhalative, local, short-term	1.55 mg/m³	N/A	0.0135

dermal, systemic, long-term	5.63 mg/kg bw/day	N/A	0.00956	
combined routes, systemic, long-term	N/A	N/A	0.0231	

8.2. CS9: Consumer Contributing Scenario: Consumer (PC8)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	0.885 mg/m ³	N/A	0.00776
inhalative, local, short-term	2.52 mg/m³	N/A	0.0221
dermal, systemic, long-term	8.43 mg/kg bw/day	N/A	0.0143
combined routes, systemic, long-term	N/A	N/A	0.0364

8.2. CS10: Consumer Contributing Scenario: Consumer (PC18)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	86 mg/m³	N/A	0.754
inhalative, local, short-term	86 mg/m³	N/A	0.754
dermal, systemic, long-term	4.69 mg/kg bw/day	N/A	0.0227
combined routes, systemic, long-term	N/A	N/A	0.777

8.2. CS11: Consumer Contributing Scenario: Consumer (PC23)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	3.62 mg/m³	N/A	0.0317
inhalative, local, short-term	45.3 mg/m³	N/A	0.397
dermal, systemic, long-term	28.2 mg/kg bw/day	N/A	0.0109
combined routes, systemic, long-term	N/A	N/A	0.408

8.2. CS12: Consumer Contributing Scenario: Consumer (PC23)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	0.136 mg/m ³	N/A	0.00119
inhalative, local, short-term	6.24 mg/m ³	N/A	0.0547
dermal, systemic, long-term	1.23 mg/kg bw/day	N/A	6.5E-05
combined routes, systemic, long-term	N/A	N/A	0.0295

8.2. CS13: Consumer Contributing Scenario: Consumer (PC24)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	0.0368 mg/m ³	N/A	0.000322
inhalative, local, short-term	3.36 mg/m ³	N/A	0.0294
dermal, systemic, long-term	1.23 mg/kg bw/day	N/A	6.5E-05
combined routes, systemic, long-term	N/A	N/A	0.0295

8.2. CS14: Consumer Contributing Scenario: Consumer (PC27)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	15.7 mg/m ³	N/A	0.137
inhalative, local, short-term	15.7 mg/m ³	N/A	0.137
dermal, systemic, long-term	11.2 mg/kg bw/day	N/A	0.0543
combined routes, systemic, long-term	N/A	N/A	0.226
oral, systemic, long-term	131.2 mg/kg bw/day	N/A	0.0344

8.2. CS15: Consumer Contributing Scenario: Consumer (PC31)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	3.62 mg/m ³	N/A	0.0317
inhalative, local, short-term	45.3 mg/m³	N/A	0.397
dermal, systemic, long-term	28.2 mg/kg bw/day	N/A	0.0109
combined routes, systemic, long-term	N/A	N/A	0.408

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

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	0.0684 mg/m ³	N/A	0.0006
inhalative, local, short-term	3.12 mg/m³	N/A	0.0273
dermal, systemic, long-term	5.65 mg/kg bw/day	N/A	0.000597
combined routes, systemic, long-term	N/A	N/A	0.0279

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

Guidance to check compliance with the exposure scenario:

Exposure Scenario, 19/07/2019

Substance identity	
Chemical name	ETHYLENE GLYCOL
CAS No.	107-21-1
EINECS No.	203-473-3

Table of contents

- 1. ES 1 Use at industrial site
- 2. **ES 2** Widespread use by professional workers
- 3. **ES 3** Widespread use by professional workers
- 4. **ES 4** Consumer use; Various products (PC9a, PC1, PC4, PC8, PC15)

1. ES 1 Use at industrial site					
1.1 TITLE SECTION					
Exposure Scenario name	Sure Scenario name Use in cleaning agents				
Date - Version	18/07/2019 - 1.0				
Life Cycle Stage	Use at industrial site				
Main user group	Industrial uses				
Sector(s) of use	Industrial uses (SU3)				
Environment Contributing Sce	nario				
CS1 Covered by		ERC4			
Worker Contributing Scenario					
CS2 Industrial		PROC1			
CS3 Industrial		PROC2			
CS4 Industrial		PROC3			
CS5 Industrial		PROC4			
CS6 Industrial		PROC8b			
CS7 Industrial		PROC7			
CS8 Industrial		PROC8a			
CS9 Industrial		PROC10			
CS10 Industrial		PROC13			
1.2 Conditions of use	affecting exposure				
1.2. CS1: Environment Contrib	uting Scenario: Covered by (ERC4)				
Environmental release categories	Use of non-reactive processing aid at industrial site (n	o inclusion into or onto article) (ERC4)			
Product (article) characteri	stics				
Physical form of product: Liquid					
Vapour pressure: 0.123 hPa					
1.2. CS2: Worker Contributing	Scenario: Industrial (PROC1)				
Process Categories	Chemical production or refinery in closed process with processes with equivalent containment conditions (PF	•			
	Product (article) characteristics				
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 Frequency: Use frequency 240 days per year					
Conditions and measures re	lated to personal protection, hygiene and hea	lth evaluation			
Personal protection					

Wear suitable gloves tested to EN	374.		
Other conditions affecting v	vorker exposure		
Indoor use			
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) character	stics		
Concentration of substance in Covers percentage substance in t			
Amount used, frequency and	l duration of use/exposure		
Duration: Covers daily exposures up to 8 ho Frequency: Use frequency 240 days per year	burs		
Conditions and measures re	lated to personal protection, hygiene and health evaluation		
Personal protection Wear suitable gloves tested to EN	374.		
Other conditions affecting v	vorker exposure		
Indoor use			
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) character	stics		
Concentration of substance in Covers percentage substance in t	•		
Amount used, frequency and	l duration of use/exposure		
Duration: Covers daily exposures up to 8 ho Frequency: Use frequency 240 days per year	burs		
Conditions and measures re	lated to personal protection, hygiene and health evaluation		
Personal protection Wear suitable gloves tested to EN	374.		
Other conditions affecting v	orker exposure		
Other conditions affecting v	orker exposure		
	-		
Indoor use	-		
Indoor use 1.2. CS5: Worker Contributing	Scenario: Industrial (PROC4) Chemical production where opportunity for exposure arises (PROC4)		
Indoor use 1.2. CS5: Worker Contributing Process Categories	Scenario: Industrial (PROC4) Chemical production where opportunity for exposure arises (PROC4) stics product:		
Indoor use 1.2. CS5: Worker Contributing Process Categories Product (article) characteria Concentration of substance in	Scenario: Industrial (PROC4) Chemical production where opportunity for exposure arises (PROC4) stics product: he product up to 100 %.		
Indoor use 1.2. CS5: Worker Contributing Process Categories Product (article) characteria Concentration of substance in Covers percentage substance in t	Scenario: Industrial (PROC4) Chemical production where opportunity for exposure arises (PROC4) stics product: he product up to 100 %. d duration of use/exposure		

Other conditions affecting worker exposure Indoor use 1.2. CS6: Worker Contributing Scenario: Industrial (PROC8b) Process Categories Transfer of substance or mixture (charging and discharging) at d Product (article) characteristics 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 Frequency: Use frequency 240 days per year Use frequency 240 days per year Conditions and measures related to personal protection, hygiene and health evalu Personal protection Wear suitable gloves tested to EN374. Other conditions affecting worker exposure Industrial spraying (PROC7) Product (article) characteristics Concentration of substance in the product: Covers percentage substance in the product up to 100 %. Amount used, frequency and duration of use/exposure Amount used, frequency and duration of use/exposure Amount used substance in the product up to 100 %. Amount used frequency and duration of use/exposure Amount used, frequency and duration of use/exposure Amount used, frequency and duration of use/exposure Amount used, frequency and duration of use/exposure Amount used, frequency and duration of use/exposure Oureers ality exposures up to 8 hours Frequency:					
1.2. CS6: Worker Contributing Scenario: Industrial (PROC8b) Process Categories Transfer of substance or mixture (charging and discharging) at d Product (article) characteristics 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 Frequency: Use frequency 240 days per year Conditions and measures related to personal protection, hygiene and health evalue Personal protection Wear suitable gloves tested to EN374. Other conditions affecting worker exposure Industrial (PROC7) Product (article) characteristics Concentration of substance in product: Covers percentage substance in the product up to 100 %. Amount used, frequency and duration of use/exposure Indoor use Concentration of substance in product: Covers percentage substance in the product up to 100 %. Amount used, frequency and duration of use/exposure Amount sused: Amount per use 1 L/min Duration: Covers daily exposures up to 8 hours Frequency: Use frequency 5 days per week Conditions affecting worker exposure Industrial protection, hygiene and health evalue Personal protection Use freque					
Process Categories Transfer of substance or mixture (charging and discharging) at de Product (article) characteristics Concentration of substance in the product: Covers parentage substance in the product up to 100 %. Amount used, frequency and duration of use/exposure Duration: Covers daily exposures up to 8 hours Frequency: Use frequency 240 days per year Conditions and measures related to personal protection, hygiene and health evalue Personal protection Wear suitable gloves tested to EN374. Covers faily exposures up to 8 hours Frequency: I.2. CS7: Worker Contributing Scenario: Industrial (PROC7) Process Categories Industrial spraying (PROC7) Process Categories Industrial spraying (PROC7) Product (article) characteristics Concentration of substance in product: Covers parentage substance in the product up to 100 %. Amount used, frequency and duration of use/exposure Amount sused: Amount per use 1 L/min Duration: Covers daily exposures up to 8 hours Frequency: Use frequency: Use frequency: Use frequency: Conditions affecting worker exposure Comores Covers use in room size of > 1000 m ³ Covers Covers use in room size of > 1000 m ³ Covers Covers use in room size of > 1000 m ³ Covers Covers use in room size of > 1000 m ³ Covers Covers use in room size of > 1000 m ³ Covers Covers use					
Product (article) characteristics 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 Frequency: Use frequency 240 days per year Conditions and measures related to personal protection, hygiene and health evalue Personal protection Wear suitable gloves tested to EN374. Other conditions affecting worker exposure Industrial spraying (PROC7) Process Categories Industrial spraying (PROC7) Product (article) characteristics Concentration of substance in product: Covers daily exposures up to 8 hours Frequency: Use frequency and duration of use/exposure Amount used, frequency and duration of use/exposure Amount per use 1 L/min Duration: Covers daily exposures up to 8 hours Frequency: Use frequency:					
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 Frequency: Use frequency 240 days per year Conditions and measures related to personal protection, hygiene and health evalue Personal protection Wear suitable gloves tested to EN374. Other conditions affecting worker exposure Indoor use 1.2. CS7: Worker Contributing Scenario: Industrial (PROC7) Process Categories Industrial spraying (PROC7) Product (article) characteristics Covers percentage substance in product: Covers percentage substance in the product up to 100 %. Amount used, frequency and duration of use/exposure Amount sused: Amount suse1 L/min Duration: Covers daily exposures up to 8 hours Frequency: Use frequency 5 days per week Conditions and measures related to personal protection, hygiene and health evalue Personal protection Wear suitable gloves tested to EN374. Dermal - minimum efficiency of: 90 9 Other condit	ng) at dedicated facilitie	es (PROC8b)			
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 Frequency: Use frequency 240 days per year Conditions and measures related to personal protection, hygiene and health evalu Personal protection Wear suitable gloves tested to EN374. Dther conditions affecting worker exposure Induor use I.2. CS7: Worker Contributing Scenario: Industrial (PROC7) Product (article) characteristics 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 suse1 L/min Duration: Covers daily exposures up to 8 hours Frequency: Use frequency 5 days per week Conditions and measures related to personal protection, hygiene and health evalu Personal protection Wear suitable gloves tested to EN374. Dermal - minimum efficiency of: 90 9 Other conditions affecting worker exposure Indoor use Covers use in room size of > 1000 m ³ L2. CS8: Worker Contributing Scenario: Industrial (PROC8a) Transfer of substance or mixture (charging and discharging) at n Transfer of substance or mixture (charging and discharging) at n					
Duration: Covers daily exposures up to 8 hours requency: Use frequency 240 days per year Conditions and measures related to personal protection, hygiene and health evalue Personal protection Wear suitable gloves tested to EN374. Dther conditions affecting worker exposure Industrial spraying (PROC7) Product (article) characteristics Concentration of substance in product: Covers percentage substance in the product up to 100%. Amount used, frequency and duration of use/exposure Amount used if we prove to 8 hours Frequency: Use frequency 5 days per week Conditions and measures related to personal protection, hygiene and health evalue Personal protection Wear suitable gloves tested to EN374. Dermal - minimum efficiency of: 90 9 Dermal - minimum efficiency of: 90 9 Distriction: Covers daily exposures up to 8 hours Frequency: Use frequency 5 days per week Conditions and measures related to personal protection, hygiene and health evalue Personal protection Wear suitable gloves tested to EN374. Deter conditions affecting worker exposure Other conditions affect					
Covers daily exposures up to 8 hours Frequency: Use frequency 240 days per year Conditions and measures related to personal protection, hygiene and health evalu Personal protection Wear suitable gloves tested to EN374. Other conditions affecting worker exposure Indoor use 1.2. CS7: Worker Contributing Scenario: Industrial (PROC7) Product (article) characteristics Concentration of substance in product: Covers percentage substance in the product up to 100 %. Amount used, frequency and duration of use/exposure Covers daily exposures up to 8 hours Frequency: Use frequency 5 days per week Conditions and measures related to personal protection, hygiene and health evalu Personal protection Wear suitable gloves tested to EN374. Dermal - minimum efficiency of: 90 % Covers use in room size of > 1000 m ³ 1.2. CS8: Worker Contributing Scenario: Industrial (PROC8a) Process Categories					
Personal protection Wear suitable gloves tested to EN374. Other conditions affecting worker exposure Indoor use 1.2. CS7: Worker Contributing Scenario: Industrial (PROC7) Process Categories Industrial spraying (PROC7) Product (article) characteristics Concentration of substance in product: Covers percentage substance in the product up to 100 %. Amount used, frequency and duration of use/exposure Amount sused: Amount per use 1 L/min Duration: Covers daily exposures up to 8 hours Frequency: Use frequency: Use frequency 5 days per week Conditions and measures related to personal protection, hygiene and health evalu Personal protection Wear suitable gloves tested to EN374. Dermal - minimum efficiency of: 90 9 Other conditions affecting worker exposure Indoor use Room size: Covers use in room size of > 1000 m ³ 1.2. CS8: Worker Contributing Scenario: Industrial (PROC8a) Process Categories					
Wear suitable gloves tested to EN374. Other conditions affecting worker exposure Indoor use 1.2. CS7: Worker Contributing Scenario: Industrial (PROC7) Process Categories Industrial spraying (PROC7) Product (article) characteristics Concentration of substance in product: Covers percentage substance in the product up to 100 %. Amount used, frequency and duration of use/exposure Amount sused: Amount per use 1 L/min Duration: Covers daily exposures up to 8 hours Frequency: Use frequency 5 days per week Conditions and measures related to personal protection, hygiene and health evalue Personal protection Wear suitable gloves tested to EN374. Detral - minimum efficiency of: 90 % Other conditions affecting worker exposure ndoor use Room size: Covers use in room size of > 1000 m³ 1.2. CS8: Worker Contributing Scenario: Industrial (PROC8a) Transfer of substance or mixture (charging and discharging) at more	evaluation				
Indoor use 1.2. CS7: Worker Contributing Scenario: Industrial (PROC7) Process Categories Industrial spraying (PROC7) Product (article) characteristics Concentration of substance in product: Covers percentage substance in the product up to 100 %. Amount used, frequency and duration of use/exposure Amount sused: Amount per use 1 L/min Duration: Covers daily exposures up to 8 hours Frequency: Use frequency 5 days per week Conditions and measures related to personal protection, hygiene and health evalu Personal protection Wear suitable gloves tested to EN374. Dermal - minimum efficiency of: 90 9 Other conditions affecting worker exposure ndoor use Room size: Covers use in room size of > 1000 m³ 1.2. CS8: Worker Contributing Scenario: Industrial (PROC8a) Process Categories					
1.2. CS7: Worker Contributing Scenario: Industrial (PROC7) Process Categories Industrial spraying (PROC7) Product (article) characteristics Concentration of substance in product: Covers percentage substance in the product up to 100 %. Amount used, frequency and duration of use/exposure Amount sused: Amount per use 1 L/min Duration: Covers daily exposures up to 8 hours Frequency: Use frequency 5 days per week Conditions and measures related to personal protection, hygiene and health evalu Personal protection Wear suitable gloves tested to EN374. Dermal - minimum efficiency of: 90 % Other conditions affecting worker exposure Indoor use Room size: Covers use in room size of > 1000 m ³ 1.2. CS8: Worker Contributing Scenario: Industrial (PROC8a) Process Categories					
Process Categories Industrial spraying (PROC7) Product (article) characteristics Concentration of substance in product: Covers percentage substance in the product up to 100 %. Amount used, frequency and duration of use/exposure Amount sused: Amount per use 1 L/min Duration: Covers daily exposures up to 8 hours Frequency: Use frequency 5 days per week Conditions and measures related to personal protection, hygiene and health evalue Personal protection Wear suitable gloves tested to EN374. Dermal - minimum efficiency of: 90 9 Other conditions affecting worker exposure Indoor use Room size: Covers use in room size of > 1000 m ³ 1.2. CS8: Worker Contributing Scenario: Industrial (PROC8a) Process Categories					
Product (article) characteristics Concentration of substance in product: Covers percentage substance in the product up to 100 %. Amount used, frequency and duration of use/exposure Amount sused: Amount per use 1 L/min Duration: Covers daily exposures up to 8 hours Frequency: Use frequency 5 days per week Conditions and measures related to personal protection, hygiene and health evalue Personal protection Wear suitable gloves tested to EN374. Dermal - minimum efficiency of: 90 9 Other conditions affecting worker exposure ndoor use Room size: Covers use in room size of > 1000 m ³ 1.2. CS8: Worker Contributing Scenario: Industrial (PROC8a) Transfer of substance or mixture (charging and discharging) at more set of substance or mixture (charging and discharging) at more set of substance or mixture (charging and discharging) at more set of substance or mixture (charging and discharging) at more set of substance or mixture (charging and discharging) at more set of substance or mixture (charging and discharging) at more set of substance or mixture (charging and discharging) at more set of substance or mixture (charging and discharging) at more set of substance or mixture (charging and discharging) at more set of substance or mixture (charging and discharging) at more set of substance or mixture (charging and discharging) at more set of substance or mixture (charging and discharging) at more set of substance or mixture (charging and discharging) at more set of substance or mixture (charging and discharging) at more set of substance or mixture (charging an					
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 1 L/min Duration: Covers daily exposures up to 8 hours Frequency: Use frequency 5 days per week Conditions and measures related to personal protection, hygiene and health evalu Personal protection Wear suitable gloves tested to EN374. Dermal - minimum efficiency of: 90 9 Other conditions affecting worker exposure ndoor use Room size: Covers use in room size of > 1000 m ³ 1.2. CS8: Worker Contributing Scenario: Industrial (PROC8a) Transfer of substance or mixture (charging and discharging) at more substance or mixture (charging and discharging at more substance or mixture (charging and discharging at more substanc					
Covers percentage substance in the product up to 100 %. Amount used, frequency and duration of use/exposure Amounts used: Amount per use 1 L/min Duration: Covers daily exposures up to 8 hours Frequency: Use frequency 5 days per week Conditions and measures related to personal protection, hygiene and health evalue Personal protection Wear suitable gloves tested to EN374. Dermal - minimum efficiency of: 90 9 Other conditions affecting worker exposure Indoor use Room size: Covers use in room size of > 1000 m³ 1.2. CS8: Worker Contributing Scenario: Industrial (PROC8a) Process Categories					
Amounts used: Amount per use 1 L/min Duration: Covers daily exposures up to 8 hours Frequency: Use frequency 5 days per week Conditions and measures related to personal protection, hygiene and health evalu Personal protection Wear suitable gloves tested to EN374. Dermal - minimum efficiency of: 90 9 Other conditions affecting worker exposure Indoor use Room size: Covers use in room size of > 1000 m³ 1.2. CS8: Worker Contributing Scenario: Industrial (PROC8a) Transfer of substance or mixture (charging and discharging) at no					
Amount per use 1 L/min Duration: Covers daily exposures up to 8 hours Frequency: Use frequency 5 days per week Conditions and measures related to personal protection, hygiene and health evalue Personal protection Wear suitable gloves tested to EN374. Dermal - minimum efficiency of: 90 % Other conditions affecting worker exposure Indoor use Room size: Covers use in room size of > 1000 m³ 1.2. CS8: Worker Contributing Scenario: Industrial (PROC8a) Process Categories					
Covers daily exposures up to 8 hours Frequency: Use frequency 5 days per week Conditions and measures related to personal protection, hygiene and health evalu Personal protection Wear suitable gloves tested to EN374. Dermal - minimum efficiency of: 90 9 Other conditions affecting worker exposure ndoor use Room size: Covers use in room size of > 1000 m ³ L.2. CS8: Worker Contributing Scenario: Industrial (PROC8a) Transfer of substance or mixture (charging and discharging) at new					
Personal protection Wear suitable gloves tested to EN374. Dermal - minimum efficiency of: 90 % Other conditions affecting worker exposure Indoor use Room size: Covers use in room size of > 1000 m³ 1.2. CS8: Worker Contributing Scenario: Industrial (PROC8a) Process Categories					
Wear suitable gloves tested to EN374. Dermal - minimum efficiency of: 90 % Other conditions affecting worker exposure Indoor use Room size: Covers use in room size of > 1000 m³ 1.2. CS8: Worker Contributing Scenario: Industrial (PROC8a) Process Categories	evaluation				
Other conditions affecting worker exposure ndoor use Room size: Covers use in room size of > 1000 m³ 1.2. CS8: Worker Contributing Scenario: Industrial (PROC8a) Process Categories					
Indoor use Room size: Covers use in room size of > 1000 m ³ 1.2. CS8: Worker Contributing Scenario: Industrial (PROC8a) Transfer of substance or mixture (charging and discharging) at no	Wear suitable gloves tested to EN374. Dermal - minimum efficiency of: 90 %				
Room size: Covers use in room size of > 1000 m³ 1.2. CS8: Worker Contributing Scenario: Industrial (PROC8a) Process Categories Transfer of substance or mixture (charging and discharging) at not substance or mixture (charging at not substa					
1.2. CS8: Worker Contributing Scenario: Industrial (PROC8a) Transfer of substance or mixture (charging and discharging) at ne					
Transfer of substance or mixture (charging and discharging) at n					
·/	ng) at non-dedicated fa	cilities			
Product (article) characteristics					
Concentration of substance in product:					

	cy and duration of use/exposure			
Duration: Covers daily exposures up Frequency: Use frequency 240 days pe				
	res related to personal protection, hygiene and health evaluation			
Personal protection Wear suitable gloves tested	d to EN374.			
Other conditions affect	ting worker exposure			
Indoor use Ventilation rate: > 90 %				
1.2. CS9: Worker Contrib	outing Scenario: Industrial (PROC10)			
Process Categories	Roller application or brushing (PROC10)			
Product (article) chard	ncteristics			
Concentration of substar Covers percentage substar	nce in product: nce in the product up to 100 %.			
Amount used, frequend	cy and duration of use/exposure			
Duration: Covers daily exposures up Frequency: Use frequency 240 days pe				
Conditions and measu	res related to personal protection, hygiene and health evaluation			
Personal protection Wear suitable gloves tested Use suitable eye protection				
Other conditions affect	ting worker exposure			
Indoor use				
1.2. CS10: Worker Contri	ibuting Scenario: Industrial (PROC13)			
Process Categories	Treatment of articles by dipping and pouring (PROC13)			
Product (article) chard	acteristics			
Concentration of substan	nce in product: nce in the product up to 100 %.			
Amount used, frequency and duration of use/exposure				
Duration: Covers daily exposures up Frequency: Use frequency 240 days pe				
Conditions and measures related to personal protection, hygiene and health evaluation				
Personal protection Wear suitable gloves tested Use suitable eye protection				
Other conditions affect	ting worker exposure			
Indoor use				
1.3 Exposure esti	mation and reference to its source			

Exposure level	Calculation method	Risk Characterization Ratio (RCR)
N/A	EASY TRA v2.0	0.001
N/A	EASY TRA v2.0	0.001
N/A	EASY TRA v2.0	0.003
N/A	EASY TRA v2.0	0.004
	N/A N/A N/A	N/AEASY TRA v2.0N/AEASY TRA v2.0N/AEASY TRA v2.0

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	N/A	EASY TRA v2.0	0.07
inhalative, local, long-term	N/A	EASY TRA v2.0	0.07
dermal, systemic, long-term	N/A	EASY TRA v2.0	0.01
combined routes, systemic, long-term	N/A	EASY TRA v2.0	0.08

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	N/A	EASY TRA v2.0	0.22
inhalative, local, long-term	N/A	EASY TRA v2.0	0.22
dermal, systemic, long-term	N/A	EASY TRA v2.0	0.003
combined routes, systemic, long-term	N/A	EASY TRA v2.0	0.223

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	N/A	EASY TRA v2.0	0.37
inhalative, local, long-term	N/A	EASY TRA v2.0	0.37
dermal, systemic, long-term	N/A	EASY TRA v2.0	0.06
combined routes, systemic, long-term	N/A	EASY TRA v2.0	0.43

1.3. CS6: Worker Contributing Scenario: Industrial (PROC8b)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	N/A	EASY TRA v2.0	0.37

inhalative, local, long-term	N/A	EASY TRA v2.0	0.37
dermal, systemic, long-term	N/A	EASY TRA v2.0	0.06
combined routes, systemic, long-term	N/A	EASY TRA v2.0	0.43

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	N/A	EASY TRA v2.0	0.28
inhalative, local, long-term	N/A	EASY TRA v2.0	0.28
dermal, systemic, long-term	N/A	EASY TRA v2.0	0.52
combined routes, systemic, long-term	N/A	EASY TRA v2.0	0.8

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	N/A	EASY TRA v2.0	0.37
inhalative, local, long-term	N/A	EASY TRA v2.0	0.37
dermal, systemic, long-term	N/A	EASY TRA v2.0	0.06
combined routes, systemic, long-term	N/A	EASY TRA v2.0	0.43

1.3. CS9: Worker Contributing Scenario: Industrial (PROC10)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	N/A	EASY TRA v2.0	0.74
inhalative, local, long-term	N/A	EASY TRA v2.0	0.74
dermal, systemic, long-term	N/A	EASY TRA v2.0	0.03
combined routes, systemic, long-term	N/A	EASY TRA v2.0	0.77

1.3. CS10: Worker Contributing Scenario: Industrial (PROC13)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	N/A	EASY TRA v2.0	0.74
inhalative, local, long-term	N/A	EASY TRA v2.0	0.74
dermal, systemic, long-term	N/A	EASY TRA v2.0	0.01

combined routes, systemic, long-term	N/A	EASY TRA v2.0	0.75	
--------------------------------------	-----	---------------	------	--

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:

2. ES 2 Widespread use by professional workers

2.1 TITLE SECTION

2.1 IIILE SECTION		
Exposure Scenario name	Use in cleaning agents	
Date - Version	19/07/2019 - 1.0	
Life Cycle Stage	Widespread use by professional workers	
Main user group	Professional uses	
Sector(s) of use	Professional uses (SU22)	
Environment Contributing Sce	nario	
CS1 Covered by		ERC8a - ERC8d
Worker Contributing Scenario		
CS2 General use from profession	al operators	PROC1
CS3 General use from profession	al operators	PROC2
CS4 General use from profession	al operators	PROC3
CS5 General use from profession	al operators	PROC4
CS6 General use from profession	al operators	PROC8b
CS7 General use from profession	al operators	PROC8a
CS8 General use from profession	al operators	PROC10
CS9 General use from profession	al operators	PROC11
CS10 General use from profession	nal operators	PROC13

2.2 Conditions of use affecting exposure

2.2. CS1: Environment Contributing Scenario: Covered by (ERC8a, ERC8d)

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

Product (article) characteristics

Physical form of product: Liquid	
Vapour pressure: 0.123 hPa	
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) characteri	stics
Physical form of product: Liquid	
Concentration of substance in Covers percentage substance in t	•
Amount used, frequency and	l duration of use/exposure

Duration:	
Covers daily exposures up to	28 hours
Frequency:	
Use frequency 240 days per	
	es related to personal protection, hygiene and health evaluation
Personal protection Wear suitable gloves tested to Use suitable eye protection.	o EN374.
Other conditions affectin	ng worker exposure
Indoor use	
2.2. CS3: Worker Contribu	ting 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) charac	teristics
Physical form of product: Liquid	
Concentration of substance Covers percentage substance	c e in product: .e in the product up to 100 %.
Amount used, frequency	and duration of use/exposure
Duration:	
Covers daily exposures up to Frequency:	
Use frequency 240 days per	
	es related to personal protection, hygiene and health evaluation
Personal protection Wear suitable gloves tested to	o EN374.
Use suitable eye protection.	
Other conditions affectin	ng worker exposure
	ng worker exposure
Other conditions affectin	
Other conditions affectin	ng worker exposure ting Scenario: General use from professional operators (PROC3) Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition (PROC3)
Other conditions affectin Indoor use 2.2. CS4: Worker Contribut	ting Scenario: General use from professional operators (PROC3) Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition (PROC3)
Other conditions affectin Indoor use 2.2. CS4: Worker Contribut Process Categories	ting Scenario: General use from professional operators (PROC3) Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition (PROC3)
Other conditions affectin Indoor use 2.2. CS4: Worker Contribut Process Categories Product (article) charac Physical form of product: Liquid Concentration of substance	Atting Scenario: General use from professional operators (PROC3) Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition (PROC3) Ceteristics
Other conditions affectin Indoor use 2.2. CS4: Worker Contribut Process Categories Product (article) charac Physical form of product: Liquid Concentration of substance Covers percentage substance	Atting Scenario: General use from professional operators (PROC3) Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition (PROC3) Interistics
Other conditions affectin Indoor use 2.2. CS4: Worker Contribut Process Categories Product (article) charac Physical form of product: Liquid Concentration of substance Covers percentage substance	ting Scenario: General use from professional operators (PROC3) Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition (PROC3) cteristics ce in product: e in the product up to 100 %.
Other conditions affectin Indoor use 2.2. CS4: Worker Contribut Process Categories Product (article) charace Physical form of product: Liquid Concentration of substance Covers percentage substance Amount used, frequency	Atting Scenario: General use from professional operators (PROC3) Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition (PROC3) eteristics teristics teristics and duration of use/exposure o 8 hours
Other conditions affectin Indoor use 2.2. CS4: Worker Contribut Process Categories Product (article) charac Physical form of product: Liquid Concentration of substance Covers percentage substance Amount used, frequency Duration: Covers daily exposures up to Frequency: Use frequency 240 days per	Atting Scenario: General use from professional operators (PROC3) Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition (PROC3) eteristics teristics teristics and duration of use/exposure o 8 hours
Other conditions affectin Indoor use 2.2. CS4: Worker Contribut Process Categories Product (article) charac Physical form of product: Liquid Concentration of substance Covers percentage substance Amount used, frequency Duration: Covers daily exposures up to Frequency: Use frequency 240 days per	Iting Scenario: General use from professional operators (PROC3) Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition (PROC3) Interistics The product: e in the product up to 100 %. and duration of use/exposure b 8 hours year ess related to personal protection, hygiene and health evaluation
Other conditions affectin Indoor use 2.2. CS4: Worker Contribut Process Categories Product (article) charac Physical form of product: Liquid Concentration of substanc Covers percentage substance Amount used, frequency Duration: Covers daily exposures up to Frequency: Use frequency 240 days per Conditions and measure Personal protection Wear suitable gloves tested to	ting Scenario: General use from professional operators (PROC3) Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition (PROC3) eteristics ce in product: e in the product up to 100 %. and duration of use/exposure b 8 hours year cs related to personal protection, hygiene and health evaluation o EN374.

	Scenario: General use from professional operators (PROC4)
Process Categories	Chemical production where opportunity for exposure arises (PROC4)
Product (article) characteri	stics
Physical form of product: Liquid	
Concentration of substance in Covers percentage substance in t	•
Amount used, frequency and	l duration of use/exposure
Duration: Covers daily exposures up to 8 ho Frequency: Use frequency 240 days per year	burs
Conditions and measures re	lated to personal protection, hygiene and health evaluation
Personal protection Wear suitable gloves tested to EN Use suitable eye protection.	374.
Other conditions affecting w	vorker exposure
Indoor use	
2.2. CS6: Worker Contributing	Scenario: General use from professional operators (PROC8b)
Process Categories	Transfer of substance or mixture (charging and discharging) at dedicated facilities (PROC8b)
Product (article) characteri	stics
Physical form of product: Liquid Concentration of substance in Covers percentage substance in t	•
Amount used, frequency and	······································
	l duration of use/exposure
Duration: Covers daily exposures up to 8 ho Frequency: Use frequency 240 days per year	
Covers daily exposures up to 8 ho Frequency: Use frequency 240 days per year	
Covers daily exposures up to 8 ho Frequency: Use frequency 240 days per year	burs
Covers daily exposures up to 8 ho Frequency: Use frequency 240 days per year Conditions and measures re Personal protection Wear suitable gloves tested to EN	burs Plated to personal protection, hygiene and health evaluation 374.
Covers daily exposures up to 8 ho Frequency: Use frequency 240 days per year Conditions and measures re Personal protection Wear suitable gloves tested to EN Use suitable eye protection.	burs Plated to personal protection, hygiene and health evaluation 374.
Covers daily exposures up to 8 ho Frequency: Use frequency 240 days per year Conditions and measures re Personal protection Wear suitable gloves tested to EN Use suitable eye protection. Other conditions affecting we Indoor use	burs Plated to personal protection, hygiene and health evaluation 374.
Covers daily exposures up to 8 ho Frequency: Use frequency 240 days per year Conditions and measures re Personal protection Wear suitable gloves tested to EN Use suitable eye protection. Other conditions affecting we Indoor use	burs Nated to personal protection, hygiene and health evaluation 374. Porker exposure
Covers daily exposures up to 8 ho Frequency: Use frequency 240 days per year Conditions and measures re Personal protection Wear suitable gloves tested to EN Use suitable eye protection. Other conditions affecting w Indoor use 2.2. CS7: Worker Contributing	burs Plated to personal protection, hygiene and health evaluation 374. 374. 375 Scenario: General use from professional operators (PROC8a) Transfer of substance or mixture (charging and discharging) at non-dedicated facilities (PROC8a)
Covers daily exposures up to 8 ho Frequency: Use frequency 240 days per year Conditions and measures re Personal protection Wear suitable gloves tested to EN Use suitable eye protection. Other conditions affecting w Indoor use 2.2. CS7: Worker Contributing Process Categories	burs Plated to personal protection, hygiene and health evaluation 374. 374. 375 Scenario: General use from professional operators (PROC8a) Transfer of substance or mixture (charging and discharging) at non-dedicated facilities (PROC8a)
Covers daily exposures up to 8 ho Frequency: Use frequency 240 days per year Conditions and measures re Personal protection Wear suitable gloves tested to EN Use suitable eye protection. Other conditions affecting w Indoor use 2.2. CS7: Worker Contributing Process Categories Product (article) characteric Physical form of product:	and the second s

Corrers daily reposures up to 8 hours Frequency: Use frequency 240 days per year Conditions and measures related to personal protection, hygiene and health evaluation Personal protection Wear suitable gives tested to EN374. Use suitable eye protection. Other conditions affecting worker exposure Indoor use Ventilation rate: 80 % 2.2. CS8: Worker Contributing Scenario: General use from professional operators (PROC10) Process Categories Roller application or brushing (PROC10) Process Categories Roller application or brushing (PROC10) Product (article) characteristics Physical form of product: Layad Concentration of substance in product: Covers daily reposures up to 8 hours Frequency: Use frequency 240 days per year Conditions and measures related to personal protection, hygiene and health evaluation Personal protection Inhalation - minimum efficiency of: 80 % Wear suitable gives tested to EN374. Use suitable eye protection. Wear suitable gives tested to EN374. Inhalation - minimum efficiency of: 80 % Other conditions affecting worker exposure Inhalation - minimum efficiency of: 80 % Ventilation rate: 80 % 2.2. CS9: Worker	Duration:		
Use frequency 240 days per year Conditions and measures related to personal protection, hygiene and health evaluation Personal protection Wear suitable gives tested to EN374. Use suitable eve protection. Other conditions affecting worker exposure Indoor use Ventilation rate: 80 % 22. CS3: Worker Contributing Scenario: General use from professional operators (PROC10) Process Categories Roller application or brushing (PROC10) Product (article) characteristics Physical form of product: Covers relating a substance in product: Uage dialy exposures up to 8 hours Frequency: Covers dialy exposures up to 8 hours Frequency: Use frequency 240 days per year Conditions and measures related to personal protection, hygiene and health evaluation Personal protection Inhalation - minimum efficiency of: 80 % Wear suitable gives tested to FN374. Use suitable eve protection. Wear suitable eve protection. Inhalation - minimum efficiency of: 80 % 22. CS3: Worker Contributing Scenar		o 8 hours	
Conditions and measures related to personal protection, hygiene and health evaluation Personal protection Wear suitable eye protection. Other conditions affecting worker exposure indoor use Ventilation rate: 80 % 2.2. CS8: Worker Contributing Scenario: General use from professional operators (PROC10) Process Categories Roller application or brushing (PROC10) Product (article) characteristics Physical form of product: Laqud Concentration of substance in product: Covers gencentage substance in the product up to 100 %. Amount used, frequency and duration of use/exposure Conditions and measures related to personal protection, hygiene and health evaluation Personal protection Vear suitable eye protection. Inhalation - minimum efficiency of: 80 % 2.2. CS9: Worker Contributing Scenario: General use from professional operators (PROC11) Process Categories Non industrial spraying (PROC11) Process Ca			
Personal protection Were suitable gloves tested to EN374. Use suitable gloves tested to EN374. Use suitable gloves tested to EN374. Use suitable gloves tested to EN374. Image: State Stat			
Were suitable gloves tested to EN374. Use suitable gloves tested to EN374. Ventilation rate: 80 % 2.2. CS8: Worker Contributing Scenario: General use from professional operators (PROC10) Process Categories Roller application or brushing (PROC10) Product (article) characteristics Physical form of product: Liquid 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 Frequency: Bersonal protection. Were suitable gloves tested to EN374. Use suitable gloves tested to EN374.<		s related to personal prote	ction, hygiene and health evaluation
Indoor use Ventilation rate: 80 % 2.2. CS8: Worker Contributing Scenario: General use from professional operators (PROC10) Process Categories Roller application or brushing (PROC10) Product (article) characteristics Physical form of product: Liquid Concentration of substance in product up to 100 %. Amount used, frequency and duration of use/exposure Covers daily exposures up to 8 hours Frequency: Use frequency 240 days per year Conditions and measures related to personal protection, hygiene and health evaluation Personal protection Wear suitable gloves tested to EN374. Use suitable gloves tested to EN374. Use suitable gloves tested to EN374. Use suitable respiratory protection. Inhalation - minimum efficiency of: 80 % Coher conditions affecting worker exposure Indoor use Ventilation rate: 80 % 2.2. CS9: Worker Contributing Scenario: General use from professional operators (PROC11) Product (article) characteristics Physical form of product: Liquid Concentration of substance in product up to 100 %. Amount used, frequency and duration of use/exposure Liquid Concentration substance in product Covers percentage substance in the product up to 100 %. Amount used: Amount used: Amount used: Amount used: Amount used: Amount used: Covers percentage substance in the product up to 100 %. Covers percentage substance in the product up to 100 %. Covers percentage substance in the product up to 100 %. Covers percentage substance in the product up to 100 %. Covers percentage substance in the product up to 100 %. Covers percentage substance in the product up to 100 %. Covers percentage substance in the product up to 100 %. Covers percentage substance in the product up to 100 %. Covers percentage substance in the product up to 100 %. Covers percentage substance in the product up to 100 %. Covers percentage substance in the product up to 100 %. Covers percentage substance in the product up to 100 %. Covers percentage substance in the product up to 100 %. Covers percentage substance in the product up to 100 %. Covers percentage subs	Wear suitable gloves tested	o EN374.	
Ventilation rate: 80 % 2.2. CS8: Worker Contributing Scenario: General use from professional operators (PROC10) Process Categories Roller application or brushing (PROC10) Product (article) characteristics Physical form of product: Liquid Concentration of substance in product: Covers generate substance in the product up to 100 %. Amount used, frequency and duration of use/exposure Duration: Covers daily exposures up to 8 hours Frequency: Use frequency 240 days per year Conditions and measures related to personal protection, hygiene and health evaluation Personal protection Wear suitable gioves tested to EN374. Use suitable eve protection. Wear suitable respiratory protection. Inhalation - minimum efficiency of: 80 % COcher conditions affecting worker exposure Indoor use Ventilation rate: 80 % 2.2. CS9: Worker Contributing Scenario: General use from professional operators (PROC11) Process Categories Non industrial spraying (PROC11) Product (article) characteristics Physical form of product: Liquid Concentration of substance in product: Covers percentage substance in the product up to 100 %. Amount used, frequency and duration of use/exposure Amount used, frequency and duration of use/exposure Concentration substance in product: Covers percentage substance in the product up to 100 %. Amount used, frequency and duration of use/exposure Amount used: Amount used: Amount used: Amount used: Amount used: Covers percentage substance in the product up to 100 %. Covers percentage substance in the product of to 100 %. Covers percentage substance in the product: Covers percentage substance in the product of to 100 %. Covers percentage substance in the product of to 100 %. Covers percentage substance in the product of to 100 %. Covers percentage substance in the product of to 100 %. Covers percentage substance in the product up to 100 %. Covers percentage substance in the product up to 100 %. Cov	Other conditions affecti	ng worker exposure	
2.2. CS8: Worker Contributing Scenario: General use from professional operators (PROC10) Process Categories Roller application or brushing (PROC10) Product (article) characteristics Physical form of product: Liquid Concentration of substance in product up to 100 %. Amount used, frequency and duration of use/exposure Duration: Wear suitable respiratory protection. Inhalation - minimum efficiency of: 80 % Concentration of substance in the product up to 100 %. Covers percentage substance in the product up to 100 %. Covers daily exposures up to 8 hours Frequency: Use frequency 240 days per year Conditions and measures related to personal protection, hygiene and health evaluation Personal protection Wear suitable gloves tested to EN374. Use suitable respiratory protection. Inhalation - minimum efficiency of: 80 % Covers percentage substance in the product up to 100 %. Covers percentage substance in the product up to 100 %. Covers percentage substance in the product up to 100 %. Covers and the addition rate: 80 % Covers percentage substance in the product up to 100 %. Covers percentage substance in the product up to 100 %. Covers percentage substance in product: Liquid Concentration of substance in product up to 100 %. Covers percentage substance in the product up to 100 %. Covers percentage substance in the product up to 100 %. Covers percentage substance in the product up to 100 %. Covers percentage substance in the product up to 100 %. Covers percentage substance in the product up to 100 %. Covers percentage substance in the product up to 100 %. Covers percentage substance in the product up to 100 %. Covers percentage substance in the product up to 100 %. Covers percentage substance in the product up to 100 %. Covers percentage substance in the product up to 100 %. Covers percentage substance in the product up to 100 %. Covers percentage substance in the product up to 100 %. Covers percentage substance in the product up to 100 %. Covers percentage substance in the product up to 100 %. Covers percentage substance i			
Product (article) characteristics Physical form of product: Liquid Concentration of substance in product: Covers percentage substance in the product up to 100 %. Amount used, frequency and duration of use/exposure Duration: Cover sality exposures up to 8 hours Frequency: Use frequency 240 days per year Conditions and measures related to personal protection, hygiene and health evaluation Personal protection Wear suitable gloves tested to EN374. Use suitable gloves tested to EN374. Use suitable respiratory protection. Inhalation - minimum efficiency of: 80 % Concentration of substance in product: Liquid Concentration of product: Liquid Concentration of product: Liquid Concentration of substance in product: Covers percentage substance in the product up to 100 %. Amount used, frequency and duration of use/exposure Covers percentage substance in the product up to 100 %. Amount used, frequency and duration of use/exposure Covers percentage substance in the product: Liquid Concentration of substance in product: Covers percentage substance in the product up to 100 %. Amount used, frequency and duration of use/exposure Covers percentage substance in the product Covers percentage substance in the product Covers percentage substance in the product up to 100 %. Covers percentage substance in the product up to 100 %. Covers percentage substance in the product Covers percentage substance in the product up to 100 %. Covers percentage substance in the product up to 100 %. Covers percentage substance in the product up to 100 %. Covers percentage substance in the product up to 100 %. Covers percentage substance in the product up to 100 %. Covers percentage substance in the product up to 100 %. Covers percentage substance in the product up to 100 %. Covers percentage substance in the product up to 100 %. Covers percentage substance in the product up to 100 %. Covers percentage substance in the product up to 100 %. Covers percentage substance in the product up to 100 %. Covers percentage substance in the product up to 100 %. Cover		ting Scenario: General use fro	om professional operators (PROC10)
Physical form of product: Liquid 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 Frequency: Use frequency 240 days per year Conditions and measures related to personal protection, hygiene and health evaluation Personal protection Wear suitable gloves tested to EN374. Use suitable gloves tested to EN374. Inhalation - minimum efficiency of: 80 % Other conditions affecting worker exposure Inhalation - minimum efficiency of: 80 % 212. CS9: Worker Contributing Scenario: General use from professional operators (PROC11) Process Categories Non industrial spraying (PROC11) Product (article) characteristics Physical form of product: Liquid Liquid Concentration of substance in the product up to 100 %. Amount used, frequency and duration of use/exposure Amount used, frequency and duration of use/exposure Amount used. Amount per use 0.05 L/min Duration: Use solution of use/exposure	Process Categories	Roller application or brush	ing (PROC10)
Liquid 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 Frequency: Use frequency 240 days per year Conditions and measures related to personal protection, hygiene and health evaluation Personal protection Wear suitable gloves tested to EN374. Use suitable gloves tested to EN374. Use suitable respiratory protection. Inhalation - minimum efficiency of: 80 % Covers for conditions affecting worker exposure Indoor use Ventilation rate: 80 % Covers Suitable Suitable Scenario: General use from professional operators (PROC11) Process Categories Non industrial spraying (PROC11) Process Categories Non industrial spraying (PROC11) Process Categories Physical form of product: Liquid Concentration of substance in the product up to 100 %. Amount used, frequency and duration of use/exposure Amount per use 0.05 L/min Duration:	Product (article) chara	cteristics	
Concertation 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 Frequency: Use frequency 240 days per year Conditions and measures related to personal protection, hygiene and health evaluation Personal protection Wear suitable gloves tested to EN374. Use suitable gloves tested to EN374. Use suitable respiratory protection. Wear suitable respiratory protection. Mear suitable respiratory protection. Process Categories Non industrial spraying (PROC11) Product (article) characteristics Physical form of product: Liquid Covers percentage substance in the product up to 100 %. Amount per use 0.05 L/min Duration: Mear suitable respiratory protection. Mear suitable respiratory protection. Mear suitable respiratory protection. Mear suitable respiratory protectio			
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 Frequency: Use frequency 240 days per year Conditions and measures related to personal protection, hygiene and health evaluation Personal protection Wear suitable gloves tested to EN374. Use suitable gloves tested to EN374. Use suitable respiratory protection. Inhalation - minimum efficiency of: 80 % Cover conditions affecting worker exposure Inhalation rate: 80 % 2.2. CS9: Worker Contributing Scenario: General use from professional operators (PROC11) Process Categories Non industrial spraying (PROC11) Product (article) characteristics Physical form of product: Liquid Concentration of substance in product: Covers percentage substance in the product up to 100 %. Amount used, frequency and duration of use/exposure Amount used. Stance in the product up to 100 %.	Liquid		
Amount used, frequency and duration of use/exposure Duration: Covers daily exposures up to 8 hours Frequency: Use frequency 240 days per year Conditions and measures related to personal protection, hygiene and health evaluation Personal protection Wear suitable gloves tested to EN374. Use suitable gloves tested to EN374. Use suitable respiratory protection. Inhalation - minimum efficiency of: 80 % Coher conditions affecting worker exposure Indoor use Ventilation rate: 80 % 2.2. CS9: Worker Contributing Scenario: General use from professional operators (PROC11) Process Categories Non industrial spraying (PROC11) Product (article) characteristics Physical form of product: Liquid Concentration of substance in product: Covers percentage substance in the product up to 100 %. Amount used, frequency and duration of use/exposure Amount use 0.05 L/min Duration:		-	
Duration: Covers daily exposures up to 8 hours Frequency: Use frequency 240 days per year Conditions and measures related to personal protection, hygiene and health evaluation Personal protection Wear suitable gloves tested to EN374. Use suitable eve protection. Wear suitable respiratory protection. Inhalation - minimum efficiency of: 80 %. Other conditions affecting worker exposure Indoor use Ventilation rate: 80 % 2.2. CS9: Worker Contributing Scenario: General use from professional operators (PROC11) Process Categories Non industrial spraying (PROC11) Product (article) characteristics Physical form of product: Liquid Concentration of substance in product: Covers percentage substance in the product up to 100 %. Amount used, frequency and duration of use/exposure Amount per use 0.05 L/min Duration:			
Covers daily exposures up to 8 hours Frequency: Use frequency 240 days per year Conditions and measures related to personal protection, hygiene and health evaluation Personal protection Wear suitable gloves tested to EN374. Use suitable eye protection. Inhalation - minimum efficiency of: 80 % Concentration rate: 80 % Concentration of substance in the product: Liquid Concentration of substance in the product up to 100 %. Amount used: Amount per use 0.05 L/min Duration:		and duration of use/expos	ure
Frequency: Use frequency 240 days per year Conditions and measures related to personal protection, hygiene and health evaluation Personal protection Wear suitable gloves tested to EN374. Use suitable gloves tested to EN374. Use suitable eve protection. Inhalation - minimum efficiency of: 80 % Other conditions affecting worker exposure Indoor use Ventilation rate: 80 % 2.2. CS9: Worker Contributing Scenario: General use from professional operators (PROC11) Process Categories Non industrial spraying (PROC11) Product (article) characteristics Physical form of product: Liquid Concentration of substance in product: Covers percentage substance in the product up to 100 %. Amount used. Amount used. Amount per use 0.05 L/min		o 8 hours	
Conditions and measures related to personal protection, hygiene and health evaluation Personal protection Wear suitable gloves tested to EN374. Use suitable eye protection. Wear suitable respiratory protection. Inhalation - minimum efficiency of: 80 % Other conditions affecting worker exposure Indoor use Ventilation rate: 80 % 2.2. CS9: Worker Contributing Scenario: General use from professional operators (PROC11) Process Categories Non industrial spraying (PROC11) Product (article) characteristics Physical form of product: Liquid Concentration of substance in product: Covers percentage substance in the product up to 100 %. Amount used, frequency and duration of use/exposure Amount per use 0.05 L/min Duration:	requency:		
Personal protection Wear suitable gloves tested to EN374. Use suitable eye protection. Wear suitable respiratory protection. Inhalation - minimum efficiency of: 80 % Other conditions affecting worker exposure Indoor use Ventilation rate: 80 % 2.2. CS9: Worker Contributing Scenario: General use from professional operators (PROC11) Process Categories Non industrial spraying (PROC11) Product (article) characteristics Physical form of product: Liquid Concentration of substance in product: Covers percentage substance in the product up to 100 %. Amount used, frequency and duration of use/exposure Amount per use 0.05 L/min Duration:			
Wear suitable gloves tested to EN374. Use suitable eye protection. Inhalation - minimum efficiency of: 80 % Other conditions affecting worker exposure Indoor use Ventilation rate: 80 % 2.2. CS9: Worker Contributing Scenario: General use from professional operators (PROC11) Process Categories Non industrial spraying (PROC11) Product (article) characteristics Physical form of product: Liquid Concentration of substance in product: Covers percentage substance in the product up to 100 %. Amount used, frequency and duration of use/exposure Amount per use 0.05 L/min Duration:		s related to personal prote	ction, hygiene and health evaluation
Use suitable eye protection. Wear suitable respiratory protection. Inhalation - minimum efficiency of: 80 % Other conditions affecting worker exposure Indoor use Ventilation rate: 80 % 2.2. CS9: Worker Contributing Scenario: General use from professional operators (PROC11) Process Categories Non industrial spraying (PROC11) Product (article) characteristics Physical form of product: Liquid 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 0.05 L/min Duration:	Personal protection		
Wear suitable respiratory protection. Inhalation - minimum efficiency of: 80 % Other conditions affecting worker exposure Indoor use Ventilation rate: 80 % 2.2. CS9: Worker Contributing Scenario: General use from professional operators (PROC11) Process Categories Non industrial spraying (PROC11) Product (article) characteristics Physical form of product: Liquid Concentration of substance in product: Covers percentage substance in the product up to 100 %. Amount used, frequency and duration of use/exposure Amount per use 0.05 L/min Duration:	-	EN374.	
Other conditions affecting worker exposure Indoor use Ventilation rate: 80 % 2.2. CS9: Worker Contributing Scenario: General use from professional operators (PROC11) Process Categories Non industrial spraying (PROC11) Product (article) characteristics Physical form of product: Liquid Concentration of substance in product: Covers percentage substance in the product up to 100 %. Amount used, frequency and duration of use/exposure Amount per use 0.05 L/min Duration:	Use suitable eye protection.		
Indoor use Ventilation rate: 80 % 2.2. CS9: Worker Contributing Scenario: General use from professional operators (PROC11) Process Categories Non industrial spraying (PROC11) Product (article) characteristics Physical form of product: Liquid Concentration of substance in product: Covers percentage substance in the product up to 100 %. Amount used, frequency and duration of use/exposure Amount per use 0.05 L/min Duration:	Wear suitable respiratory prot	ection.	Inhalation - minimum efficiency of: 80 %
Indoor use Ventilation rate: 80 % 2.2. CS9: Worker Contributing Scenario: General use from professional operators (PROC11) Process Categories Non industrial spraying (PROC11) Product (article) characteristics Physical form of product: Liquid Concentration of substance in product: Covers percentage substance in the product up to 100 %. Amount used, frequency and duration of use/exposure Amount per use 0.05 L/min Duration:			
Ventilation rate: 80 % 2.2. CS9: Worker Contributing Scenario: General use from professional operators (PROC11) Process Categories Non industrial spraying (PROC11) Product (article) characteristics Physical form of product: Liquid Concentration of substance in product: Covers percentage substance in the product up to 100 %. Amount used, frequency and duration of use/exposure Amount per use 0.05 L/min Duration:	Other conditions affecti	ng worker exposure	
2.2. CS9: Worker Contributing Scenario: General use from professional operators (PROC11) Process Categories Non industrial spraying (PROC11) Product (article) characteristics Physical form of product: Liquid Concentration of substance in product: Covers percentage substance in the product up to 100 %. Amount used, frequency and duration of use/exposure Amount per use 0.05 L/min Duration:			
Process Categories Non industrial spraying (PROC11) Product (article) characteristics Physical form of product: Liquid Concentration of substance in product: Covers percentage substance in the product up to 100 %. Amount used, frequency and duration of use/exposure Amount per use 0.05 L/min Duration:			
Product (article) characteristics Physical form of product: Liquid 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 0.05 L/min Duration:			
Physical form of product: Liquid 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 0.05 L/min Duration:			<pre>(OC11)</pre>
Liquid 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 0.05 L/min Duration:		cteristics	
Covers percentage substance in the product up to 100 %. Amount used, frequency and duration of use/exposure Amounts used: Amount per use 0.05 L/min Duration:			
Amounts used: Amount per use 0.05 L/min Duration:		-	
Amount per use 0.05 L/min Duration:	Amount used, frequency	[,] and duration of use/expos	ure
	Duration:		
Exposure duration 180 min Frequency:	Exposure duration 180 min		

Frequency:

	rweek	
Technical and organise	ntional conditions and me	asures
Technical and organisation Provide a good standard of	onal measures controlled ventilation (10 to 15 air	changes per hour).
-		otection, hygiene and health evaluation
Personal protection		
Wear suitable gloves tested t	o EN374.	Inhalation - minimum efficiency of: 90 %
Use suitable eye protection.		
Wear suitable respiratory pro	tection.	Inhalation - minimum efficiency of: 80 %
Other conditions affect	ing worker exposure	
Indoor use Room size: Covers use in roor Ventilation rate: 80 %	n size of > 100 m ³	
2.2. CS10: Worker Contri	buting Scenario: General us	e from professional operators (PROC13)
		e from professional operators (PROC13) / dipping and pouring (PROC13)
Process Categories	Treatment of articles by	
Process Categories Product (article) chara	Treatment of articles by	
Process Categories Product (article) chara Physical form of product Liquid Concentration of substar	Treatment of articles by acteristics	
Process Categories Product (article) chara Physical form of product Liquid Concentration of substar Covers percentage substar	Treatment of articles by acteristics	/ dipping and pouring (PROC13)
Process Categories Product (article) chara Physical form of product Liquid Concentration of substar Covers percentage substar Amount used, frequence Duration: Covers daily exposures up	Treatment of articles by acteristics the in product: the in the product up to 100 %. By and duration of use/exp	/ dipping and pouring (PROC13)
Process Categories Product (article) chara Physical form of product Liquid Concentration of substar Covers percentage substar Amount used, frequence Duration: Covers daily exposures up	Treatment of articles by acteristics the in product: the in the product up to 100 %. By and duration of use/exp to 8 hours	/ dipping and pouring (PROC13)
Process Categories Product (article) chara Physical form of product Liquid Concentration of substar Covers percentage substar Amount used, frequence Duration: Covers daily exposures up Frequency: Use frequency < 240 days	Treatment of articles by acteristics the product: the product up to 100 %. The product up to 100 %. The product up to 100 %.	/ dipping and pouring (PROC13)
Process Categories Product (article) chara Physical form of product Liquid Concentration of substar Covers percentage substar Amount used, frequence Duration: Covers daily exposures up Frequency: Use frequency < 240 days	Treatment of articles by acteristics the product: the product up to 100 %. The product up to 100 %. The product up to 100 %.	y dipping and pouring (PROC13)
Process Categories Product (article) chara Physical form of product Liquid Concentration of substar Covers percentage substar Amount used, frequence Duration: Covers daily exposures up Frequency: Use frequency < 240 days Conditions and measur	Treatment of articles by acteristics the in product: the product up to 100 %. The product up to 100 %. The product of the product up to 100 %. The product of the product o	y dipping and pouring (PROC13)

Other conditions affecting worker exposure

Indoor use

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)
dermal, systemic, long-term	N/A	ECETOC TRA worker v2.0	0.001
dermal, local, long-term	N/A	ECETOC TRA worker v2.0	0.001
inhalative, systemic, long-term	N/A	ECETOC TRA worker v2.0	0.003

dermal, systemic, long-term	N/A	ECETOC TRA worker v2.0	0.004

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)
dermal, systemic, long-term	N/A	ECETOC TRA worker v2.0	0.37
dermal, local, long-term	N/A	ECETOC TRA worker v2.0	0.37
inhalative, systemic, long-term	N/A	ECETOC TRA worker v2.0	0.01
dermal, systemic, long-term	N/A	ECETOC TRA worker v2.0	0.38

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)
dermal, systemic, long-term	N/A	ECETOC TRA worker v2.0	0.22
dermal, local, long-term	N/A	ECETOC TRA worker v2.0	0.22
inhalative, systemic, long-term	N/A	ECETOC TRA worker v2.0	0.003
dermal, systemic, long-term	N/A	ECETOC TRA worker v2.0	0.223

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

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
dermal, systemic, long-term	N/A	ECETOC TRA worker v2.0	0.74
dermal, local, long-term	N/A	ECETOC TRA worker v2.0	0.74
inhalative, systemic, long-term	N/A	ECETOC TRA worker v2.0	0.006
dermal, systemic, long-term	N/A	ECETOC TRA worker v2.0	0.8

2.3. CS6: Worker Contributing Scenario: General use from professional operators (PROC8b)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
dermal, systemic, long-term	N/A	ECETOC TRA worker v2.0	0.74
dermal, local, long-term	N/A	ECETOC TRA worker v2.0	0.74
inhalative, systemic, long-term	N/A	ECETOC TRA worker v2.0	0.06
dermal, systemic, long-term	N/A	ECETOC TRA worker v2.0	0.8

2.3. CS7: Worker Contributing Scenario: General use from professional operators (PROC8a)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
dermal, systemic, long-term	N/A	ECETOC TRA worker v2.0	0.37
dermal, local, long-term	N/A	ECETOC TRA worker v2.0	0.37
inhalative, systemic, long-term	N/A	ECETOC TRA worker v2.0	0.13
dermal, systemic, long-term	N/A	ECETOC TRA worker v2.0	0.5

2.3. CS8: 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	N/A	ECETOC TRA worker v2.0	0.37
dermal, local, long-term	N/A	ECETOC TRA worker v2.0	0.37
inhalative, systemic, long-term	N/A	ECETOC TRA worker v2.0	0.3
dermal, systemic, long-term	N/A	ECETOC TRA worker v2.0	0.4

2.3. CS9: 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	N/A	ECETOC TRA worker v2.0	0.4
dermal, local, long-term	N/A	ECETOC TRA worker v2.0	0.4
inhalative, systemic, long-term	N/A	ECETOC TRA worker v2.0	0.51
dermal, systemic, long-term	N/A	ECETOC TRA worker v2.0	0.91

2.3. CS10: Worker Contributing Scenario: General use from professional operators (PROC13)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
dermal, systemic, long-term	N/A	ECETOC TRA worker v2.0	0.74
dermal, local, long-term	N/A	ECETOC TRA worker v2.0	0.74
inhalative, systemic, long-term	N/A	ECETOC TRA worker v2.0	0.01
dermal, systemic, long-term	N/A	ECETOC TRA worker v2.0	0.75

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:

3. ES 3 Widespread use by professional workers

3.1 TITLE SECTION

3.1 TITLE SECTION				
Exposure Scenario name	Use in antifreeze products			
Date - Version	19/07/2019 - 1.0			
Life Cycle Stage	Widespread use by professional workers			
Main user group	Professional uses			
Sector(s) of use	Professional uses (SU22)			
Environment Contributing Sce	nario			
CS1 Covered by		ERC8d		
Worker Contributing Scenario				
CS2 General use from professiona	al operators	PROC1		
CS3 General use from professiona	al operators	PROC2		
CS4 General use from professiona	al operators	PROC8a		
CS5 General use from professiona	al operators	PROC8b		
CS6 General use from professiona	al operators	PROC11		
3.2 Conditions of use	affecting exposure			
3.2. CS1: Environment Contrib	uting Scenario: Covered by (ERC8d)			
Environmental release categories	Widespread use of non-reactive processing aid (no inc (ERC8d)	clusion into or onto article, outdoor)		
Product (article) characteristics				
Physical form of product: Liquid				
Vapour pressure: 0.123 hPa				
3.2. CS2: Worker Contributing	Scenario: General use from professional operato	rs (PROC1)		
Process Categories	Chemical production or refinery in closed process with processes with equivalent containment conditions (PF	-		
Product (article) characteri				
Concentration of substance in Covers percentage substance in t	•			
Amount used, frequency and duration of use/exposure				
Duration:				
Covers daily exposures up to 8 hours Frequency: Covers exposure up to 240 days per year				
Technical and organisational conditions and measures				
Technical and organisational n Use in contained systems	neasures			
Conditions and measures related to personal protection, hygiene and health evaluation				
	natea to personal protection, nygiene and nea			

Wear suitable gloves tested to EN374.

Other conditions affecting w	orker exposure		
Indoor use			
3.2. CS3: Worker Contributing	Scenario: General use fro	m 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) characteri	stics		
Concentration of substance in Covers percentage substance in t	•		
Amount used, frequency and	duration of use/exposu	re	
Duration: Covers daily exposures up to 8 ho Frequency: Covers exposure up to 240 days p			
Technical and organisation	al conditions and measu	res	
Technical and organisational n Use in contained systems	neasures		
Conditions and measures re	lated to personal protec	tion, hygiene and health evaluation	
Personal protection Wear suitable gloves tested to ENS	74.		
Other conditions affecting w	orker exposure		
Indoor use			
3.2. CS4: Worker Contributing	Scenario: General use fro	n professional operators (PROC8a)	
Process Categories	Transfer of substance or mix (PROC8a)	cture (charging and discharging) at non-dedicated facilities	
Product (article) characteri	stics		
Concentration of substance in Covers percentage substance in the			
Amount used, frequency and		re	
Duration: Covers daily exposures up to 8 ho Frequency: Covers exposure up to 240 days p	urs		
Technical and organisation	al conditions and measu	res	
Technical and organisational n Use in contained systems	neasures		
Conditions and measures re	lated to personal protec	tion, hygiene and health evaluation	
Personal protection			
Wear suitable gloves tested to EN37	4.		
Wear suitable respiratory protection		Inhalation - minimum efficiency of: 80 %	
Other conditions affecting w	orker exposure		
Indoor use Ventilation rate: 80 %			
3.2. CS5: Worker Contributing	Scenario: General use fro	n professional operators (PROC8b)	
Process Categories	Categories Transfer of substance or mixture (charging and discharging) at dedicated facilities (PROC8b)		

Product (article) characteri					
Concentration of substance in Covers percentage substance in t		%.			
Amount used, frequency and	d duration of use	e/exposur	е		
Duration: Covers daily exposures up to 8 hc Frequency: Covers exposure up to 240 days p					
Technical and organisation	al conditions an	d measure	es		
Technical and organisational r Use in contained systems	neasures				
Conditions and measures re	lated to persond	al protecti	on, h	ygiene and health	evaluation
Personal protection Wear suitable gloves tested to EN	374.				
Other conditions affecting w	vorker exposure				
Indoor use					
3.2. CS6: Worker Contributing	Scenario: Genera	l use from	prof	essional operators (PROC11)
Process Categories	Non industrial spr	aying (PROC	211)		
Product (article) characteristics					
Concentration of substance in Covers percentage substance in t	•	%.			
Amount used, frequency and	d duration of use	e/exposur	е		
Duration: Exposure duration 180 min Frequency: Covers exposure up to 5 days per	week				
Technical and organisation	al conditions an	d measure	es		
Technical and organisational r Use in contained systems	neasures				
Conditions and measures re	lated to persond	il protecti	on, h	ygiene and health	evaluation
Personal protection					
Wear suitable gloves tested to EN37	74.		Derr	nal - minimum efficiency	of: 90 %
Other conditions affecting w	vorker exposure				
Indoor use Room size: Covers use in room size of	of > 100 m³				
3.3 Exposure estimat		ren <u>ce to</u>	o <u>its</u>	s sour <u>ce</u>	
3.3. CS2: Worker Contributing					PROC1)
Exposure route, Health effect, Ex	posure indicator	Exposure l	evel	Calculation method	Risk Characterization Ratio (RCR)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	RISK Characterization Ratio (RCR)	
inhalative, systemic, long-term	N/A	EASY TRA v2.0	0.001	
inhalative, local, long-term	N/A	EASY TRA v2.0	0.001	
dermal, systemic, long-term	N/A	EASY TRA v2.0	0.003	

combined routes, systemic, long-term	N/A	EASY TRA v2.0	0.004

3.3. 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	N/A	EASY TRA v2.0	0.37
inhalative, local, long-term	N/A	EASY TRA v2.0	0.37
dermal, systemic, long-term	N/A	EASY TRA v2.0	0.01
combined routes, systemic, long-term	N/A	EASY TRA v2.0	0.38

3.3. CS4: Worker Contributing Scenario: General use from professional operators (PROC8a)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	N/A	EASY TRA v2.0	0.37
inhalative, local, long-term	N/A	EASY TRA v2.0	0.37
dermal, systemic, long-term	N/A	EASY TRA v2.0	0.13
combined routes, systemic, long-term	N/A	EASY TRA v2.0	0.5

3.3. CS5: Worker Contributing Scenario: General use from professional operators (PROC8b)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	N/A	EASY TRA v2.0	0.74
inhalative, local, long-term	N/A	EASY TRA v2.0	0.74
dermal, systemic, long-term	N/A	EASY TRA v2.0	0.06
combined routes, systemic, long-term	N/A	EASY TRA v2.0	0.8

3.3. CS6: 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	N/A	EASY TRA v2.0	0.4
inhalative, local, long-term	N/A	EASY TRA v2.0	0.4
dermal, systemic, long-term	N/A	EASY TRA v2.0	0.51
combined routes, systemic, long-term	N/A	EASY TRA v2.0	0.91

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:

Consumer use; Various products (PC9a, PC1, PC4, PC8, PC15) 4. ES 4

4.1 TITLE SECTION

4.1 IIILE SECTION		
Exposure Scenario name	Consumer goods	
Date - Version	19/07/2019 - 1.0	
Life Cycle Stage	Consumer use	
Main user group	Consumer uses	
Product Categories	Coatings and paints, thinners, paint removers (PC9a) and de-icing products (PC4) - Biocidal products (PC8) products (PC15) - Heat transfer fluids (PC16) - Hydrau - Leather treatment products (PC23) - Polishes and wa and compounds (PC32) - Textile dyes and impregnatin cleaning products (PC35)	- Non-metal surface treatment lic fluids (PC17) - Ink and toners (PC18) ax blends (PC31) - Polymer preparations
Environment Contributing Sce	nario	
CS1 Covered by		ERC8a - ERC8c - ERC8d - ERC8f - ERC9a - ERC9b
Consumer Contributing Scena	rio	
CS2 Consumer		PC1
CS3 Consumer		PC4 - PC16 - PC17 - PC4_1
CS4 Consumer PC4 - PC4_2		PC4 - PC4_2
CS5 Consumer PC9a - PC15 - PC9a_2, PC15_2		
CS6 Consumer		PC8
CS7 Consumer		PC18
CS8 Consumer		PC31
CS9 Consumer		PC32
CS10 Consumer		PC35 - PC8_2, PC35_2
CS11 Consumer		PC35 - PC8_3, PC35_3
CS12 Consumer		PC15 - PC23 - PC34 - PC9a_1, PC15_1
4.2 Conditions of use	affecting exposure	

4.2. CS1: Environment Contributing Scenario: Covered by (ERC8a, ERC8c, ERC8d, ERC8f, ERC9a, ERC9b)

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 nonreactive processing aid (no inclusion into or onto article, outdoor) - Widespread use leading to inclusion into/onto article (outdoor) - Widespread use of functional fluid (indoor) -Widespread use of functional fluid (outdoor) (ERC8a, ERC8c, ERC8d, ERC8f, ERC9a, ERC9b)

Product (article) characteristics

Physical form of product:

Liquid

Concentration of substance in product:

Covers percentage substance in the product up to 100 %.

4.2. CS2: Consumer Contributi	ng Scenario: Consumer (PC1)
Product Categories	Adhesives, sealants (PC1)

roduct Categories	
-------------------	--

Product (article) characte	ristics
Concentration of substance Covers concentrations up to 0.7	•
4.2. CS3: Consumer Contribu	ting Scenario: Consumer (PC4, PC16, PC17)
Product Categories	Anti-freeze and de-icing products - Heat transfer fluids - Hydraulic fluids (PC4, PC16, PC17)
Product (Sub-)Categories	Washing car window (PC4_1)
Product (article) characte	ristics
Concentration of substance Covers concentrations up to 45	•
Amount used, frequency an	nd duration of use/exposure
Duration: Exposure duration < 15 min	
4.2. CS4: Consumer Contribu	ting Scenario: Consumer (PC4)
Product Categories	Anti-freeze and de-icing products (PC4)
Product (Sub-)Categories	Pouring into radiator (PC4_2)
Product (article) characte	ristics
Concentration of substance in Covers percentage substance in	•
4.2. CS5: Consumer Contribu	ting Scenario: Consumer (PC9a, PC15)
Product Categories	Coatings and paints, thinners, paint removers - Non-metal surface treatment products (PC9a, PC15)
Product (Sub-)Categories	Solvent rich, high solid, water borne paint (PC9a_2, PC15_2)
Product (article) characte	ristics
Concentration of substance in Covers concentrations up to 10	•
4.2. CS6: Consumer Contribu	ting Scenario: Consumer (PC8)
Product Categories	Biocidal products (PC8)
4.2. CS7: Consumer Contribu	ting Scenario: Consumer (PC18)
Product Categories	Ink and toners (PC18)
Product (article) characte	ristics
Concentration of substance in Covers percentage substance in	•
4.2. CS8: Consumer Contribu	ting Scenario: Consumer (PC31)
Product Categories	Polishes and wax blends (PC31)
Product (article) characte	ristics
Concentration of substance in Covers concentrations up to 10	•
4.2. CS9: Consumer Contribu	ting Scenario: Consumer (PC32)
Product Categories	Polymer preparations and compounds (PC32)
Product (article) characte	ristics
Concentration of substance in Covers percentage substance in	
4.2. CS10: Consumer Contrib	uting Scenario: Consumer (PC35)

Product Categories	Washing and cleaning products (PC35)
Product (Sub-)Categories	Cleaners, liquids (all purpose cleaners, sanitary products, floor cleaners, glass cleaners, carpet cleaners, metal cleaners) (PC8_2, PC35_2)
Product (article) charact	eristics
Concentration of substance Covers concentrations up to 2	•
4.2. CS11: Consumer Contri	buting Scenario: Consumer (PC35)
Product Categories	Washing and cleaning products (PC35)
Product (Sub-)Categories	Cleaners, trigger sprays (all purpose cleaners, sanitary products, glass cleaners) (PC8_3, PC35_3)
Product (article) charact	eristics
Concentration of substance Covers percentage substance	•
4.2. CS12: Consumer Contri	buting Scenario: Consumer (PC15, PC23, PC34)
Product Categories	Non-metal surface treatment products - Leather treatment products - Textile dyes and impregnating products (PC15, PC23, PC34)
Product (Sub-)Categories	Waterborne latex wall paint (PC9a_1, PC15_1)
4.3 Exposure estim	ation and reference to its source
	uting Scenario: Consumer (PC1)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	N/A	N/A	0.59
dermal, systemic, long-term	N/A	N/A	0.005
combined routes, systemic, long-term	N/A	N/A	0.505

4.2. CS3: Consumer Contributing Scenario: Consumer (PC4, PC16, PC17)

Exposure level	Calculation method	Risk Characterization Ratio (RCR)
N/A	N/A	0.28
N/A	N/A	0.08
N/A	N/A	0.36
	N/A N/A	N/A N/A N/A

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

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	N/A	N/A	0
dermal, systemic, long-term	N/A	N/A	0.09
combined routes, systemic, long-term	N/A	N/A	0.09

4.2. CS5: Consumer Contributing Scenario: Consumer (PC9a, PC15)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	N/A	N/A	0.04
dermal, systemic, long-term	N/A	N/A	0.02
combined routes, systemic, long-term	N/A	N/A	0.06

4.2. CS6: Consumer Contributing Scenario: Consumer (PC8)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	N/A	N/A	0
dermal, systemic, long-term	N/A	N/A	0.006
combined routes, systemic, long-term	N/A	N/A	0.006

4.2. CS7: Consumer Contributing Scenario: Consumer (PC18)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	N/A	N/A	0.18
dermal, systemic, long-term	N/A	N/A	0
combined routes, systemic, long-term	N/A	N/A	0.18

4.2. CS8: Consumer Contributing Scenario: Consumer (PC31)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	N/A	N/A	0.56
dermal, systemic, long-term	N/A	N/A	0.04
combined routes, systemic, long-term	N/A	N/A	0.6

4.2. CS9: Consumer Contributing Scenario: Consumer (PC32)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	N/A	N/A	0.009
dermal, systemic, long-term	N/A	N/A	0.001
combined routes, systemic, long-term	N/A	N/A	0.01

4.2. CS10: Consumer Contributing Scenario: Consumer (PC35)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	N/A	N/A	0.09
dermal, systemic, long-term	N/A	N/A	0.22
combined routes, systemic, long-term	N/A	N/A	0.31

4.2. CS11: Consumer Contributing Scenario: Consumer (PC35)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	N/A	N/A	0.02
dermal, systemic, long-term	N/A	N/A	0.002
combined routes, systemic, long-term	N/A	N/A	0.022

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:

Exposure Scenario, 24/07/2019

Substance identity	
Chemical name	propan-2-olo; alcool isopropilico
CAS No.	67-63-0
EINECS No.	200-661-7

Table of contents

- 1. **ES 1** Widespread use by professional workers
- 2. **ES 2** Widespread use by professional workers
- 3. **ES 3** Consumer use; Various products (PC9b, PC9a, PC3, PC4, PC8)

1. ES 1 Wides	spread use by professional workers	5
1.1 TITLE SECTION		
Exposure Scenario name	Use in cleaning agents	
Date - Version	24/07/2019 - 1.0	
Life Cycle Stage	Widespread use by professional workers	
Main user group	Industrial uses	
Sector(s) of use	Industrial uses (SU3)	
Worker Contributing Scenario		
CS1 Industrial		PROC8a
CS2 Industrial		PROC2
CS3 Industrial		PROC3
CS4 Industrial		PROC8b
CS5 Industrial		PROC4
CS6 Industrial		PROC13
CS7 Industrial		PROC10
CS8 Industrial		PROC7
1.2 Conditions of use	affecting exposure	
1.2. CS1: Worker Contributing	Scenario: Industrial (PROC8a)	
Process Categories	Transfer of substance or mixture (charging and discharging) at non-dedicated facilities (PROC8a)	
Product (article) characteri	stics	
Physical form of product: Liquid		
Amount used, frequency and	l duration of use/exposure	
Duration: Covers daily exposures up to 8 ho	urs	
Technical and organisation	al conditions and measures	
Technical and organisational n Clear transfer lines prior to de-cou Provide extract ventilation to point	pling.	
Conditions and measures re	lated to personal protection, hygiene and hea	lth evaluation
Personal protection Wear suitable gloves tested to ENS	374.	
Other conditions affecting w		
Temperature: Covers use at ambien	t temperatures.	
1.2. CS2: Worker Contributing	Scenario: Industrial (PROC2)	
Process Categories	Chemical production or refinery in closed continuous exposure or processes with equivalent containment c	-
		· · · ·
Product (article) characteri	51105	
Product (article) characteria Physical form of product: Liquid	51105	

Duration: Covers daily exposures up to 8 ho	burs							
Technical and organisation	Technical and organisational conditions and measures							
Technical and organisational n Clear transfer lines prior to de-cou								
Conditions and measures re	lated to personal protection, hygiene and health evaluation							
Personal protection Wear suitable gloves tested to ENS	374.							
Other conditions affecting w	vorker exposure							
Temperature: Covers use at ambien	it temperatures.							
1.2. CS3: 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) characteri	stics							
Physical form of product: Liquid								
Amount used, frequency and	l duration of use/exposure							
Duration: Covers daily exposures up to 8 ho	burs							
Technical and organisation	Technical and organisational conditions and measures							
Technical and organisational n Clear transfer lines prior to de-cou								
Conditions and measures re	lated to personal protection, hygiene and health evaluation							
Personal protection Wear suitable gloves tested to EN3	374.							
Other conditions affecting w	vorker exposure							
Temperature: Covers use at ambien	it temperatures.							
1.2. CS4: Worker Contributing	Scenario: Industrial (PROC8b)							
Process Categories	Transfer of substance or mixture (charging and discharging) at dedicated facilities (PROC8b)							
Product (article) characteri	stics							
Physical form of product: Liquid								
Amount used, frequency and	l duration of use/exposure							
Duration: Covers daily exposures up to 8 ho	burs							
Technical and organisation	al conditions and measures							
Technical and organisational n Clear transfer lines prior to de-cou								
Conditions and measures re	lated to personal protection, hygiene and health evaluation							
Personal protection Wear suitable gloves tested to ENS	374.							
Other conditions affecting w	vorker exposure							
Temperature: Covers use at ambien	it temperatures.							
1.2. CS5: Worker Contributing	Scenario: Industrial (PROC4)							
Process Categories	Chemical production where opportunity for exposure arises (PROC4)							

Physical form of product:	
Liquid	
	v and duration of use/exposure
Duration: Covers daily exposures up to	o 8 hours
Technical and organisa	tional conditions and measures
Technical and organisation Clear transfer lines prior to d Provide extract ventilation to	
Conditions and measure	es related to personal protection, hygiene and health evaluation
Personal protection Wear suitable gloves tested t	to EN374.
Other conditions affection	ng worker exposure
Temperature: Covers use at ar	nbient temperatures.
1.2. CS6: Worker Contribu	uting Scenario: Industrial (PROC13)
Process Categories	Treatment of articles by dipping and pouring (PROC13)
Product (article) charac	cteristics
Physical form of product: Liquid	
Amount used, frequency	v and duration of use/exposure
Duration: Covers daily exposures up to	o 8 hours
0	tional conditions and measures
Technical and organisation Provide extract ventilation to	points where emissions occur.
	es related to personal protection, hygiene and health evaluation
Personal protection Wear suitable gloves tested t	to EN374.
Other conditions affection	ng worker exposure
Temperature: Covers use at ar	mbient temperatures.
1.2. CS7: Worker Contribu	uting Scenario: Industrial (PROC10)
Process Categories	Roller application or brushing (PROC10)
Product (article) charac	cteristics
Physical form of product: Liquid	
Amount used, frequency	v and duration of use/exposure
Duration: Covers daily exposures up to	o 8 hours
Conditions and measure	es related to personal protection, hygiene and health evaluation
Personal protection Wear suitable gloves tested t	to EN374.
-	

Process Categories	Industrial spraying (PROC7)
Product (article) char	acteristics
Physical form of produc	t:
Amount used, frequen	cy and duration of use/exposure
Duration: Covers daily exposures up Frequency: Covers exposure up to 4 h	
Technical and organis	sational conditions and measures
Technical and organisat Provide a good standard o	ional measures f controlled ventilation (5 to 10 air changes per hour).
Conditions and measu	res related to personal protection, hygiene and health evaluation
Personal protection Wear suitable gloves teste	

Wear a respirator conforming to EN140.

Other conditions affecting worker exposure

Temperature: Covers use at ambient temperatures.

Ventilation rate: 70 %

1.3 Exposure estimation and reference to its source

1.3. CS1: Worker Contributing Scenario: Industrial (PROC8a)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	50 mg/m ³	N/A	0.246
dermal, systemic, long-term	13.71 mg/m³	N/A	0.015
combined routes, systemic, long-term	N/A	N/A	0.261

1.3. CS2: Worker Contributing Scenario: Industrial (PROC2)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	10 mg/m³	N/A	0.049
dermal, systemic, long-term	1.37 mg/m ³	N/A	0.002
combined routes, systemic, long-term	N/A	N/A	0.051

1.3. CS3: Worker Contributing Scenario: Industrial (PROC3)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	25 mg/m³	N/A	0.123
dermal, systemic, long-term	0.34 mg/m ³	N/A	0
combined routes, systemic, long-term	N/A	N/A	0.123

1.3. CS4: Worker Contributing Scenario: Industrial (PROC8b)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	50 mg/m ³	N/A	0.246
dermal, systemic, long-term	6.86 mg/m ³	N/A	0.008
combined routes, systemic, long-term	N/A	N/A	0.254

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 mg/m³	N/A	0.492
dermal, systemic, long-term	6.86 mg/m ³	N/A	0.008
combined routes, systemic, long-term	N/A	N/A	0.5

1.3. CS6: Worker Contributing Scenario: Industrial (PROC13)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	50 mg/m ³	N/A	0.246
dermal, systemic, long-term	13.71 mg/m³	N/A	0.015
combined routes, systemic, long-term	N/A	N/A	0.261

1.3. CS7: Worker Contributing Scenario: Industrial (PROC10)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	50 mg/m³	N/A	0.246
dermal, systemic, long-term	27.43 mg/m ³	N/A	0.031
combined routes, systemic, long-term	N/A	N/A	0.277

1.3. CS8: Worker Contributing Scenario: Industrial (PROC7)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	50 mg/m³	N/A	0.246
dermal, systemic, long-term	27.43 mg/m³	N/A	0.031

combined routes, systemic, long-term	N/A	N/A	0.277	

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:

2. ES 2 Widespread use by professional workers

2.1 TITLE SECTION

2.1 TITLE SECTION					
xposure Scenario name Use in cleaning agents					
Date - Version	te - Version 24/07/2019 - 1.0				
Life Cycle Stage	e Cycle Stage Widespread use by professional workers				
Main user group	Main user group Professional uses				
Sector(s) of use	Professional uses (SU22)				
Worker Contributing Scenario					
CS1 General use from profession	al operators	PROC8b			
CS2 General use from profession	al operators	PROC2			
CS3 General use from profession	al operators	PROC3			
CS4 General use from profession	al operators	PROC4			
CS5 General use from profession	al operators	PROC8a			
CS6 General use from profession	al operators	PROC13			
CS7 General use from profession	PROC10				
CS8 General use from profession	PROC11				
CS9 General use from professional operators PROC11					
CS10 General use from professional operators PROC10					
CS11 General use from professional operators PROC10					
CS12 General use from profession	nal operators	PROC4			
2.2 Conditions of use	affecting exposure				
2.2. CS1: Worker Contributing	Scenario: General use from professional operato	rs (PROC8b)			
Process Categories	Transfer of substance or mixture (charging and discha	rging) at dedicated facilities (PROC8b)			
Product (article) characteri	stics				
Physical form of product: Liquid					
Amount used, frequency and	l duration of use/exposure				
Duration: Covers daily exposures up to 8 ho	burs				
Conditions and measures related to personal protection, hygiene and health evaluation					
Personal protection Wear suitable gloves tested to EN374.					
Other conditions affecting w	vorker exposure				
Temperature: Covers use at ambien	t temperatures.				
2.2. CS2: Worker Contributing	Scenario: General use from professional operato	rs (PROC2)			
Process Categories	Chemical production or refinery in closed continuous exposure or processes with equivalent containment c	-			
Product (article) characteri	stics	Product (article) characteristics			

Product (article) characteristics

Physical form of product: Liquid Amount used, frequency and duration of use/exposure Cover siduly exposures up to 8 hours Conditions and measures related to personal protection, hygiene and health evaluation Personal protection Were valuable glows tested to EN374. Other conditions affecting worker exposure Temperature: Covers use at ambient temperatures. 2.2. CS3: Worker Contributing Scenario: General use from professional operators (PROC3) Process Categories Manufacture or formulation in the chemical industry in closed batch processes with accessional controlled exposure or processes with equivalent containment condition (PROC3) Product (article) characteristics Physical form of product: Liquid Amount used, frequency and duration of use/exposure Covers faily exposures up to 8 hours Covers faily expos	Dhysical form of modulet						
Duration: Covers daily exposures up to 8 hours Conditions and measures related to personal protection, hygiene and health evaluation Personal protection Wear suitable gloves tested to EN274. Other conditions offecting worker exposure Temperature: Covers use at ambient temperatures. 2.2. CS3: 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: Uapid Amount used, frequency and duration of use/exposure Outer conditions and measures related to personal protection, hygiene and health evaluation Personal protection Wear suitable gloves tested to EN374. Other conditions officiting worker exposure Cenerations officiting worker exposure Covers daily exposures up to 8 hours Conditions officiting worker exposure Covers Categories Chemical production where opportunity for exposure arises (PROC4) Process Categories Chemical production where opportunity for exposure arises (PROC4) Process Categories Chemical production and measures Uapid Amount used, frequency and duration of use/exposure							
Covers daily exposures up to 8 hours Conditions and measures related to personal protection, hygiene and health evaluation Personal protection Wear studie gives tested to EN374. Other conditions affecting worker exposure Temperature: Covers us at amblent temperatures. 2.2. CS3: Worker Contributing Scenario: General use from professional operators (PROC3) Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition (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) Process Categories Conditions and measures related to personal protection, hygiene and health evaluation Personal protection Wear studie gives tested to EN374. Other conditions affecting worker exposure Temperature: Covers use at amblent temperatures. 2.2. CS4: Worker Contributing Process Categories Covers daily exposures up to 8 hours Covers daily exposures up to 8 hours Covers daily exposures up to 8 hours Conditions affecting worker exposure Temperature: Covers use at amblent temperatures. 2.2. CS4: Worker Contributing Covers daily exposures up to 8 hours Covers daily exposu	Amount used, frequency and duration of use/exposure						
Personal protection Wear suitable gloves tested to EN374. Other conditions affecting worker exposure Temperature: Covers use at ambient temperatures. 2.2. CS3: 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 Amount used, frequency and duration of use/exposure Duration: Covers daily exposures up to 8 hours Conditions and measures related to personal protection, hygiene and health evaluation Personal protection Vear suitable gloves tested to EN374. Other conditions affecting worker exposure Temperature: Covers us at ambient temperatures. 2.2. CS4: Worker Contributing Scenario: General use from professional operators (PROC4) Product (article) characteristics Product affecting worker exposure Chemical production where opportunity for exposure arises (PROC4) Product affecting under and measures related to personal protection, hygiene and health evaluation Process Categories Chemical production where opportunity for exposure arises (PROC4) Product (article) characteristics Physical form of product: Liquid Conditions and measures r		8 hours					
Wear suitable gloves tested to EN374. Other conditions affecting worker exposure Temperature: Covers use at ambient temperatures. 2.2. C53: 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) Process Categories Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition (PROC3) Process Categories Manufacture or formulation of use/exposure Prostal form of product: Liquid Amount used, frequency and duration of use/exposure Covers daily exposures up to 8 hours Conditions and measures related to personal protection, hygiene and health evaluation Personal protection Wear suitable gloves tested to EN374. Cher conditions affecting worker exposure Covers daily exposures up to 8 hours Chemical production where opportunity for exposure arises (PROC4) Process Categories Chemical production where opportunity for exposure arises (PROC4) Product (article) characteristics Product (article) characteristics Physical form of product: Liquid Amount used, frequency and duration of use/exposure Covers daily	Conditions and measures	s related to personal protection, hygiene and health evaluation					
Temperature: Covers use at ambient temperatures. 2.2. CS3: 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 Product (article) characteristics Physical form of product: Iquid Amount used, frequency and duration of use/exposure Conditions and measures related to personal protection, hygiene and health evaluation Personal protection Wear subble gloves tested to EN374. Coher conditions affecting worker exposure Temperature: Covers use at ambient temperatures. 2.2. CS4: Worker Contributing Scenario: General use from professional operators (PROC4) Product (article) characteristics Physical form of product: Iquid Amount used, frequency and duration of use/exposure Product (article) characteristics Physical form of product: Iquid Iquid Amount used, frequency and duration of use/exposure Product (article) characteristics Physical form of product: Iquid Iquid Amount used, frequency and duration of use/exposure Product (article) characteristics Physical form of product: Iquid Iquid Iquid	-) EN374.					
2.2. CS3: 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 Important used, frequency and duration of use/exposure Duration: Covers daily exposures up to 8 hours Conditions and measures related to personal protection, hygiene and health evaluation Personal protection Weer sultable glows tested to EN374. Other conditions affecting worker exposure Temperature: Covers use at ambient temperatures. 2.2. CS4: Worker Contributing Scenario: General use from professional operators (PROC4) Product (article) characteristics Physical form of product: Liquid Amount used, frequency and duration of use/exposure Product (article) characteristics Physical form of product: Liquid Amount used, frequency and duration of use/exposure Process Categories Cohenical and organisational conditions and measures Technical and organisational measures Technical and organisational measures Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan. Conditions affecting worker ex	Other conditions affectin	g worker exposure					
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 Amount used, frequency and duration of use/exposure Duration: Covers daily exposures up to 8 hours Conditions and measures related to personal protection, hygiene and health evaluation Wear sultable gloves tested to EN374. Other conditions affecting worker exposure Temperature: Covers use at ambient temperatures. 21. CS4: Worker Contributing Scenario: General use from professional operators (PROC4) Product (article) characteristics Physical form of product: Liquid Amount used, frequency and duration of use/exposure Duration: Covers daily exposures up to 8 hours Cores daily exposures up to 8 hours Product (article) characteristics Physical form of product: Liquid Amount used, frequency and duration of use/exposure Duration: Covers daily exposures up to 8 hours Technical and organisational measures Natural ventilation is from doors, windows etc. C	Temperature: Covers use at am	bient temperatures.					
Process Categories occasional controlled exposure or processes with equivalent containment condition (PROC3) Product (article) characteristics Physical form of product: Liquid Amount used, frequency and duration of use/exposure Duration: Covers daily exposures up to 8 hours Conditions and measures related to personal protection, hygiene and health evaluation Personal protection Wear suitable gloves tested to EN374. Other conditions affecting worker exposure Temperature: Covers use at ambient temperatures. 2.2. CS4: Worker Contributing Scenario: General use from professional operators (PROC4) Product (article) characteristics Physical form of product: Liquid Uquid Amount used, frequency and duration of use/exposure Duration: Covers daily exposures up to 8 hours Technical and organisational conditions and measures Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan. Conditions and measures related to personal protection, hygiene and health evaluation Personal protection Wear suitable gloves tested to EN374. Other conditions affecting worker exposure Technical and organisational conditions and measures Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or remo	2.2. CS3: Worker Contribut	ing Scenario: General use from professional operators (PROC3)					
Physical form of product: Liquid Amount used, frequency and duration of use/exposure Duration: Covers daily exposures up to 8 hours Conditions and measures related to personal protection, hygiene and health evaluation Personal protection Wear suitable gloves tested to EN374. Other conditions affecting worker exposure Temperature: Covers use at ambient temperatures. 2.2. CS4: Worker Contributing Scenario: General use from professional operators (PROC4) Process Categories Chenical production where opportunity for exposure arises (PROC4) Process Categories Physical form of product: Liquid Amount used, frequency and duration of use/exposure Process Categories Covers daily exposures up to 8 hours Covers daily exposures up to 8 hours Covers daily exposures up to 8 hours Technical and organisational measures Technical and organisational measures Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan. Conditions and measures related to personal protection, hygiene and health evaluation Personal protection Wear suitable gloves tested to EN374. Other conditions and measures Cohicions and measures related to personal protection, hygiene and health evaluation Personal protection Wear suit	Process Categories	Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition (PROC3)					
Liquid Amount used, frequency and duration of use/exposure Duration: Covers daily exposures up to 8 hours Covers use at ambient temperatures. Covers use at ambient temperatures. Covers use at ambient temperatures. Covers daily exposures up to 8 hours Covers daily exposures tested to EN374. Covers daily exposures tested to EN374. Covers daily exposures tested to EN374. Covers Co	Product (article) charact	teristics					
Duration: Covers daily exposures up to 8 hours Conditions and measures related to personal protection, hygiene and health evaluation Personal protection Wear suitable gloves tested to EN374. Other conditions affecting worker exposure Temperature: Covers use at ambient temperatures. 2.2. CS4: Worker Contributing Scenario: General use from professional operators (PROC4) Process Categories Chemical production where opportunity for exposure arises (PROC4) Product (article) characteristics Physical form of product: Liquid Amount used, frequency and duration of use/exposure Duration: Covers daily exposures up to 8 hours Technical and organisational conditions and measures Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan. Conditions and measures related to personal protection, hygiene and health evaluation Personal protection Wear suitable gloves tested to EN374. Other conditions affecting worker exposure Temperature: Covers use at ambient temperatures. 2.2. CS5: Worker Contributing Scenario: General use from professional operators (PROC8a) Process Categories Transfer of substance or mixiture (charging and discharging) at non-dedicated fac							
Covers daily exposures up to 8 hours Conditions and measures related to personal protection, hygiene and health evaluation Personal protection Wear suitable gloves tested to EN374. Other conditions affecting worker exposure Temperature: Covers use at ambient temperatures. 2.2. CS4: Worker Contributing Scenario: General use from professional operators (PROC4) Process Categories Chemical production where opportunity for exposure arises (PROC4) Product (article) characteristics Physical form of product: Liquid Environ of product: Duration: Covers daily exposures up to 8 hours Encolitions and measures Technical and organisational measures Incolutions and measures Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan. Conditions and measures related to personal protection, hygiene and health evaluation Personal protection Wear suitable gloves tested to EN374. Other conditions affecting worker exposure Temperature: Covers use at ambient temperatures. 2.2. CS5: Worker Contributing Scenario: General use from professional operators (PROC8a) Process Categories Transfer of substance or mixture (charging and discharging) at non-dedicated facilities (PROC8a)	Amount used, frequency	and duration of use/exposure					
Personal protection Wear suitable gloves tested to EN374. Other conditions affecting worker exposure Temperature: Covers use at ambient temperatures. 2.2. CS4: Worker Contributing Scenario: General use from professional operators (PROC4) Process Categories Chemical production where opportunity for exposure arises (PROC4) Product (article) characteristics Physical form of product: Liquid Amount used, frequency and duration of use/exposure Duration: Covers daily exposures up to 8 hours Technical and organisational conditions and measures Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan. Conditions and measures related to personal protection, hygiene and health evaluation Personal protection Wear suitable gloves tested to EN374. Other conditions affecting worker exposure Temperature: Covers use at ambient temperatures. 2.2. CS5: Worker Contributing Scenario: General use from professional operators (PROC8a) Process Categories Transfer of substance or mixture (charging and discharging) at non-dedicated facilities (PROC8a)		8 hours					
Wear suitable gloves tested to EN374. Other conditions affecting worker exposure Temperature: Covers use at ambient temperatures. 2.2. CS4: Worker Contributing Scenario: General use from professional operators (PROC4) Process Categories Chemical production where opportunity for exposure arises (PROC4) Product (article) characteristics Physical form of product: Liquid Amount used, frequency and duration of use/exposure Duration: Covers daily exposures up to 8 hours Technical and organisational conditions and measures Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan. Conditions and measures related to personal protection, hygiene and health evaluation Personal protection Wear suitable gloves tested to EN374. Other conditions affecting worker exposure Temperature: Covers use at ambient temperatures. 2.2. CS5: Worker Contributing Scenario: General use from professional operators (PROC8a) Process Categories Transfer of substance or mixture (charging and discharging) at non-dedicated facilities (PROC8a)	Conditions and measures	s related to personal protection, hygiene and health evaluation					
Temperature: Covers use at ambient temperatures. 2.2. CS4: Worker Contributing Scenario: General use from professional operators (PROC4) Process Categories Chemical production where opportunity for exposure arises (PROC4) Product (article) characteristics Physical form of product: Liquid Imperature: Covers and duration of use/exposure Duration: Covers daily exposures up to 8 hours Chenical and organisational conditions and measures Technical and organisational measures Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan. Conditions and measures related to personal protection, hygiene and health evaluation Personal protection Wear suitable gloves tested to EN374. Other conditions affecting worker exposure Temperature: Covers use at ambient temperatures. 2.2. CS5: Worker Contributing Scenario: General use from professional operators (PROC8a) Process Categories Transfer of substance or mixture (charging and discharging) at non-dedicated facilities (PROC8a)) EN374.					
2.2. CS4: Worker Contributing Scenario: General use from professional operators (PROC4) Process Categories Chemical production where opportunity for exposure arises (PROC4) Product (article) characteristics Physical form of product: Liquid Physical form of product: Liquid Importance Duration: Covers daily exposures up to 8 hours Technical and organisational conditions and measures Technical and organisational measures Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan. Conditions and measures related to personal protection, hygiene and health evaluation Personal protection Wear suitable gloves tested to EN374. Other conditions affecting worker exposure Temperature: Covers use at ambient temperatures. 2.2. CS5: Worker Contributing Scenario: General use from professional operators (PROC8a) Process Categories Transfer of substance or mixture (charging and discharging) at non-dedicated facilities (PROC8a)	Other conditions affectin	g worker exposure					
Process Categories Chemical production where opportunity for exposure arises (PROC4) Product (article) characteristics Physical form of product: Liquid 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 Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan. Conditions and measures related to personal protection, hygiene and health evaluation Personal protection Wear suitable gloves tested to EN374. Other conditions affecting worker exposure Temperature: Covers use at ambient temperatures. 2.2. CS5: Worker Contributing Scenario: General use from professional operators (PROC8a) Process Categories Transfer of substance or mixture (charging and discharging) at non-dedicated facilities (PROC8a)	Temperature: Covers use at am	bient temperatures.					
Product (article) characteristics Physical form of product: Liquid Amount used, frequency and duration of use/exposure Duration: Covers daily exposures up to 8 hours Technical and organisational conditions and measures Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan. Conditions and measures related to personal protection, hygiene and health evaluation Personal protection Wear suitable gloves tested to EN374. Other conditions affecting worker exposure Temperature: Covers use at ambient temperatures. 2.2. CS5: Worker Contributing Scenario: General use from professional operators (PROC8a) Process Categories Transfer of substance or mixture (charging and discharging) at non-dedicated facilities (PROC8a)	2.2. CS4: Worker Contribut	2.2. CS4: Worker Contributing Scenario: General use from professional operators (PROC4)					
Physical form of product: Liquid 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 Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan. Conditions and measures related to personal protection, hygiene and health evaluation Personal protection Wear suitable gloves tested to EN374. Other conditions affecting worker exposure Temperature: Covers use at ambient temperatures. 2.2. CS5: Worker Contributing Scenario: General use from professional operators (PROC8a) Process Categories Transfer of substance or mixture (charging and discharging) at non-dedicated facilities (PROC8a)	Process Categories	Chemical production where opportunity for exposure arises (PROC4)					
Liquid 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 Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan. Conditions and measures related to personal protection, hygiene and health evaluation Personal protection Wear suitable gloves tested to EN374. Other conditions affecting worker exposure Temperature: Covers use at ambient temperatures. 2.2. CS5: Worker Contributing Scenario: General use from professional operators (PROC8a) Process Categories Transfer of substance or mixture (charging and discharging) at non-dedicated facilities (PROC8a)	Product (article) charact	teristics					
Duration: Covers daily exposures up to 8 hours Technical and organisational conditions and measures Technical and organisational measures Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan. Conditions and measures related to personal protection, hygiene and health evaluation Personal protection Wear suitable gloves tested to EN374. Other conditions affecting worker exposure Temperature: Covers use at ambient temperatures. 2.2. CS5: Worker Contributing Scenario: General use from professional operators (PROC8a) Process Categories Transfer of substance or mixture (charging and discharging) at non-dedicated facilities (PROC8a)							
Covers daily exposures up to 8 hours Technical and organisational conditions and measures Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan. Conditions and measures related to personal protection, hygiene and health evaluation Personal protection Wear suitable gloves tested to EN374. Other conditions affecting worker exposure Temperature: Covers use at ambient temperatures. 2.2. CS5: Worker Contributing Scenario: General use from professional operators (PROC8a) Process Categories Transfer of substance or mixture (charging and discharging) at non-dedicated facilities (PROC8a)	Amount used, frequency	and duration of use/exposure					
Technical and organisational measures Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan. Conditions and measures related to personal protection, hygiene and health evaluation Personal protection Wear suitable gloves tested to EN374. Other conditions affecting worker exposure Temperature: Covers use at ambient temperatures. 2.2. CS5: Worker Contributing Scenario: General use from professional operators (PROC8a) Process Categories Transfer of substance or mixture (charging and discharging) at non-dedicated facilities (PROC8a)		8 hours					
Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan. Conditions and measures related to personal protection, hygiene and health evaluation Personal protection Wear suitable gloves tested to EN374. Other conditions affecting worker exposure Temperature: Covers use at ambient temperatures. 2.2. CS5: Worker Contributing Scenario: General use from professional operators (PROC8a) Process Categories Transfer of substance or mixture (charging and discharging) at non-dedicated facilities (PROC8a)	Technical and organisat	ional conditions and measures					
Personal protection Wear suitable gloves tested to EN374. Other conditions affecting worker exposure Temperature: Covers use at ambient temperatures. 2.2. CS5: Worker Contributing Scenario: General use from professional operators (PROC8a) Process Categories Transfer of substance or mixture (charging and discharging) at non-dedicated facilities (PROC8a)	-						
Wear suitable gloves tested to EN374. Other conditions affecting worker exposure Temperature: Covers use at ambient temperatures. 2.2. CS5: Worker Contributing Scenario: General use from professional operators (PROC8a) Process Categories Transfer of substance or mixture (charging and discharging) at non-dedicated facilities (PROC8a)	Conditions and measures	s related to personal protection, hygiene and health evaluation					
Temperature: Covers use at ambient temperatures. 2.2. CS5: Worker Contributing Scenario: General use from professional operators (PROC8a) Process Categories Transfer of substance or mixture (charging and discharging) at non-dedicated facilities (PROC8a)	-) EN374.					
2.2. CS5: Worker Contributing Scenario: General use from professional operators (PROC8a) Process Categories Transfer of substance or mixture (charging and discharging) at non-dedicated facilities (PROC8a)	Other conditions affecting worker exposure						
Process CategoriesTransfer of substance or mixture (charging and discharging) at non-dedicated facilities (PROC8a)	Temperature: Covers use at am	bient temperatures.					
Process Categories (PROC8a)	2.2. CS5: Worker Contribut	ing Scenario: General use from professional operators (PROC8a)					
Product (article) characteristics	Process Categories						
	Product (article) charact	teristics					
Physical form of product: Liquid							

Amount used, frequency and duration of use/exposure							
Duration: Covers daily exposures up to 8 hours							
Technical and organisation	Technical and organisational conditions and measures						
Technical and organisational n Natural ventilation is from doors, v	neasures windows etc. Controlled ventilation means air is supplied or removed by a powered fan.						
Conditions and measures re	lated to personal protection, hygiene and health evaluation						
Personal protection Wear suitable gloves tested to ENS	374.						
Other conditions affecting w	vorker exposure						
Temperature: Covers use at ambien	t temperatures.						
2.2. CS6: Worker Contributing	Scenario: General use from professional operators (PROC13)						
Process Categories	Treatment of articles by dipping and pouring (PROC13)						
Product (article) characteri	stics						
Physical form of product: Liquid							
Amount used, frequency and	l duration of use/exposure						
Duration: Covers daily exposures up to 8 ho	urs						
Technical and organisation	al conditions and measures						
Technical and organisational n Natural ventilation is from doors, w	neasures windows etc. Controlled ventilation means air is supplied or removed by a powered fan.						
Conditions and measures re	lated to personal protection, hygiene and health evaluation						
Personal protection Wear suitable gloves tested to ENS	374.						
Other conditions affecting w	vorker exposure						
Temperature: Covers use at ambien	t temperatures.						
2.2. CS7: Worker Contributing	Scenario: General use from professional operators (PROC10)						
Process Categories	Roller application or brushing (PROC10)						
Product (article) characteri	stics						
Physical form of product: Liquid							
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 Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan.							
Conditions and measures re	Conditions and measures related to personal protection, hygiene and health evaluation						
Personal protection Wear suitable gloves tested to ENS	Personal protection Wear suitable gloves tested to EN374.						
Other conditions affecting w	vorker exposure						
Temperature: Covers use at ambien	t temperatures.						
2.2. CS8: Worker Contributing Scenario: General use from professional operators (PROC11)							

Process Categories	Non industrial spraying (PROC11)			
Product (article) character	Product (article) characteristics			
Physical form of product: Liquid				
Concentration of substance in Covers percentage substance in	•			
Amount used, frequency an	d duration of use/exposure			
Duration: Covers daily exposures up to 8 h	ours			
Technical and organisation	nal conditions and measures			
Technical and organisational Natural ventilation is from doors,	measures windows etc. Controlled ventilation means air is supplied or removed by a powered fan.			
Conditions and measures r	elated to personal protection, hygiene and health evaluation			
Personal protection Wear suitable gloves tested to EN	1374.			
Other conditions affecting	worker exposure			
Temperature: Covers use at ambie Ventilation rate: 30 %	nt temperatures.			
2.2. CS9: Worker Contributing	g Scenario: General use from professional operators (PROC11)			
Process Categories	Non industrial spraying (PROC11)			
Product (article) character	istics			
Physical form of product: Liquid				
Concentration of substance in Covers concentrations up to 1 %	•			
Amount used, frequency and duration of use/exposure				
Duration: Covers daily exposures up to 8 h	ours			
Technical and organisation	al conditions and measures			
Technical and organisational Provide extract ventilation to mat	measures terial transfer points and other openings.			
Conditions and measures r	elated to personal protection, hygiene and health evaluation			
Personal protection Wear suitable gloves tested to EN	1374.			
Other conditions affecting worker exposure				
Temperature: Covers use at ambient temperatures. Ventilation rate: Provide forced ventilation 70 %				
2.2. CS10: Worker Contributing Scenario: General use from professional operators (PROC10)				
Process Categories	Roller application or brushing (PROC10)			
Product (article) character	istics			
Physical form of product: Liquid				
Amount used, frequency and duration of use/exposure				
Duration: Covers daily exposures up to 8 hours				

Technical and organisation	al conditions a	nd measures		
Technical and organisational measures Provide extract ventilation to material transfer points and other openings.				
Conditions and measures re			giene and health e	evaluation
Personal protection Wear suitable gloves tested to EN	374.			
Other conditions affecting v	vorker exposur	е		
Temperature: Covers use at ambien	nt temperatures.			
2.2. CS11: Worker Contributir	g Scenario: Gen	eral use from profe	essional operators (PROC10)
Process Categories	Roller applicatio	on or brushing (PROC1	.0)	
Product (article) character	istics			
Physical form of product: Liquid	•			
Covers percentage substance in Amount used, frequency and				
Duration: Covers daily exposures up to 8 h		se/exposure		
Technical and organisation		nd measures		
Technical and organisational Provide extract ventilation to poir	measures			
Conditions and measures re	elated to person	nal protection, hy	giene and health e	evaluation
Personal protection Wear suitable gloves tested to EN	374.			
Other conditions affecting v	vorker exposur	е		
Temperature: Covers use at ambien	nt temperatures.			
2.2. CS12: Worker Contributir	g Scenario: Gen	eral use from profe	essional operators (PROC4)
Process Categories	Chemical produ	ction where opportur	nity for exposure arise	s (PROC4)
Product (article) character	istics			
Physical form of product: Liquid				
Amount used, frequency and duration of use/exposure				
Duration: Covers daily exposures up to 8 hours				
Conditions and measures related to personal protection, hygiene and health evaluation				
Personal protection Wear suitable gloves tested to EN374.				
Other conditions affecting worker exposure				
Temperature: Covers use at ambien	nt temperatures.			
2.3 Exposure estimat	ion and ref	erence to its	source	
2.3. CS1: Worker Contributing Scenario: General use from professional operators (PROC8b)				
Exposure route, Health effect, Exposure indicator Exposure level Calculation method Risk Characterization Ratio (RCR)				

	inhalative, systemic, long-term	50 mg/m³	N/A	0.246
-	dermal, systemic, long-term	13.71 mg/kg bw/day	N/A	0.015
	combined routes, systemic, long-term	N/A	N/A	0.261

2.3. CS2: 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	20 mg/m³	N/A	0.098
dermal, systemic, long-term	1.37 mg/kg bw/day	N/A	0.002
combined routes, systemic, long-term	N/A	N/A	0.1

2.3. CS3: 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	25 mg/m³	N/A	0.123
dermal, systemic, long-term	0.34 mg/kg bw/day	N/A	0
combined routes, systemic, long-term	N/A	N/A	0.123

2.3. CS4: Worker Contributing Scenario: General use from professional operators (PROC4)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	50 mg/m³	N/A	0.246
dermal, systemic, long-term	6.84 mg/kg bw/day	N/A	0.008
combined routes, systemic, long-term	N/A	N/A	0.254

2.3. CS5: Worker Contributing Scenario: General use from professional operators (PROC8a)

Exposure level	Calculation method	Risk Characterization Ratio (RCR)
100 mg/m ³	N/A	0.492
13.71 mg/kg bw/day	N/A	0.015
N/A	N/A	0.507
	100 mg/m ³ 13.71 mg/kg bw/day	100 mg/m³ N/A 13.71 mg/kg bw/day N/A

2.3. CS6: 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	100 mg/m³	N/A	0.492
dermal, systemic, long-term	13.71 mg/kg bw/day	N/A	0.015
combined routes, systemic, long-term	N/A	N/A	0.507

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)
inhalative, systemic, long-term	100 mg/m³	N/A	0.492
dermal, systemic, long-term	27.5 mg/kg bw/day	N/A	0.031
combined routes, systemic, long-term	N/A	N/A	0.523

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)
inhalative, systemic, long-term	150 mg/m³	N/A	0.737
dermal, systemic, long-term	107.14 mg/kg bw/day	N/A	0.121
combined routes, systemic, long-term	N/A	N/A	0.858

2.3. CS9: 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	35 mg/m³	N/A	0.172
dermal, systemic, long-term	107.14 mg/kg bw/day	N/A	0.121
combined routes, systemic, long-term	N/A	N/A	0.293

2.3. CS10: Worker Contributing Scenario: General use from professional operators (PROC10)

Exposure level	Calculation method	Risk Characterization Ratio (RCR)
100 mg/m³	N/A	0.492
27.43 mg/kg bw/day	N/A	0.031
N/A	N/A	0.523
	100 mg/m³ 27.43 mg/kg bw/day	100 mg/m³ N/A 27.43 mg/kg bw/day N/A

2.3. CS11: 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 mg/m³	N/A	0.492
dermal, systemic, long-term	27.43 mg/kg bw/day	N/A	0.031
combined routes, systemic, long-term	N/A	N/A	0.523

2.3. CS12: Worker Contributing Scenario: General use from professional operators (PROC4)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	50 mg/m³	N/A	0.246
dermal, systemic, long-term	6.86 mg/kg bw/day	N/A	0.008
combined routes, systemic, long-term	N/A	N/A	0.254

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:

3. ES 3 Consumer use; Various products (PC9b, PC9a, PC3, PC4, PC8)

3.1 TITLE SECTION

3.1 TITLE SECTION			
Exposure Scenario name	Cleaning agent		
Date - Version	24/07/2019 - 1.0		
Life Cycle Stage	Consumer use		
Main user group	Consumer uses		
Sector(s) of use	Consumer uses (SU21)		
Product Categories	Fillers, putties, plasters, modelling clay (PC9b) - Coatings and paints, thinners, paint removers (PC9a) - Air care products (PC3) - Anti-freeze and de-icing products (PC4) - Biocidal products (PC8) - Lubricants, greases, release products (PC24) - Washing and cleaning products (PC35) - Welding and soldering products, flux products (PC38)		
Consumer Contributing Scena	rio		
CS1 Consumer		PC3	
CS2 Consumer		PC3	
CS3 Consumer		PC4	
CS4 Consumer		PC4	
CS5 Consumer	CS5 Consumer		
CS6 Consumer		PC8	
CS7 Consumer		PC8	
CS8 Consumer		PC8	
CS9 Consumer		PC9a	
CS10 Consumer		PC9a	
CS11 Consumer		PC9a	
CS12 Consumer		PC9a	
CS13 Consumer		PC9b	
CS14 Consumer		PC9b	
CS15 Consumer		PC9b	
CS16 Consumer		PC9c	
CS17 Consumer		PC24	
CS18 Consumer		PC24	
CS19 Consumer		PC24	
CS20 Consumer		PC35	
CS21 Consumer		PC35	
CS22 Consumer		PC35	
CS23 Consumer		PC35	
3.2 Conditions of use affecting exposure			

3.2. CS1: Consumer Contribut	ing Scenario: Consumer (PC3)
Product Categories	Air care products (PC3)
Product (article) character	istics
Physical form of product: Liquid	
Concentration of substance in Covers concentrations up to 50 %	-
Amount used, frequency and	d duration of use/exposure
Amounts used: Amount per use 0.5 g	
Frequency: Use frequency 365 days per year	
Frequency: 1 events per day	
Other conditions affecting c	-
Additional conditions human Covers skin contact area up to 428	
3.2. CS2: Consumer Contribut	ing Scenario: Consumer (PC3)
Product Categories	Air care products (PC3)
Product (article) character	istics
Physical form of product: Liquid Concentration of substance in	product
Covers concentrations up to 50 %	- 6
Amount used, frequency and	d duration of use/exposure
Amounts used: Amount per use 0.5 g	
Frequency: Use frequency 365 days per year	
Frequency: 1 events per day	
Other conditions affecting c	•
Additional conditions human Covers skin contact area up to 37.	
3.2. CS3: Consumer Contribut	ing Scenario: Consumer (PC4)
Product Categories	Anti-freeze and de-icing products (PC4)
Product (article) character	istics
Physical form of product: Liquid	
Concentration of substance in Covers concentrations up to 50 %	•
Amount used, frequency and	d duration of use/exposure

Amounts used: Amount per use 0.5 g	
Frequency: Use frequency 365 days per y	rear
Frequency: 1 events per day	
Other conditions affecting	g consumers exposure
Room size: Covers use in a one of	car garage (>34 m ³) under typical ventilation.
3.2. CS4: Consumer Contrib	outing Scenario: Consumer (PC4)
Product Categories	Anti-freeze and de-icing products (PC4)
Product (article) charact	reristics
Physical form of product: Liquid	
Concentration of substance Covers concentrations up to 5	•
Amount used, frequency	and duration of use/exposure
Frequency: Use frequency 365 days per y	ear
Frequency: 1 events per day	
Other conditions affecting	g consumers exposure
Additional conditions huma Covers skin contact area up to	
	outing Scenario: Consumer (PC4)
Product Categories	Anti-freeze and de-icing products (PC4)
Product (article) charact	eristics
Physical form of product: Liquid	
Concentration of substance Covers concentrations up to 5	
Amount used, frequency	and duration of use/exposure
Frequency: Use frequency 365 days per y	rear
Frequency: 1 events per day	
Other conditions affecting	
Additional conditions huma Covers skin contact area up to	
	outing Scenario: Consumer (PC8)
Product Categories	Biocidal products (PC8)
Product (article) charact	eristics
Physical form of product:	
Liquid	

Concentration of substan Covers concentrations up to	•
Amount used, frequency	and duration of use/exposure
Frequency: Use frequency 365 days per	year
Frequency: 1 events per day	
Other conditions affecti	
Additional conditions hun Covers skin contact area up t	
3.2. CS7: Consumer Contr	ibuting Scenario: Consumer (PC8)
Product Categories	Biocidal products (PC8)
Product (article) charad	cteristics
Physical form of product: Liquid	
Concentration of substan Covers concentrations up to	•
Amount used, frequency	and duration of use/exposure
Frequency: Use frequency 365 days per	year
Frequency: 1 events per day	
Other conditions affecti	ng consumers exposure
Additional conditions hun Covers skin contact area up t	
3.2. CS8: Consumer Contr	ibuting Scenario: Consumer (PC8)
Product Categories	Biocidal products (PC8)
Product (article) charad	cteristics
Physical form of product: Liquid	
Concentration of substan Covers concentrations up to	
Amount used, frequency	and duration of use/exposure
Frequency: Use frequency 365 days per	year
Frequency: 1 events per day	
Other conditions affecti	ng consumers exposure
Additional conditions hun Covers skin contact area up t	
3.2. CS9: Consumer Contr	ibuting Scenario: Consumer (PC9a)
Product Categories	Coatings and paints, thinners, paint removers (PC9a)
Product (article) charac	cteristics

Physical form of product:

Liquid

Concentration of substance in product:

Covers concentrations up to 50 %

Amount used, frequency and duration of use/exposure

Amounts used:

Amount per use 27 g

Frequency:

Use frequency 4 days per year

Frequency:

1 events per day

Other conditions affecting consumers exposure

Additional conditions human health

Covers skin contact area up to 428.75 cm²

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

Product Categories

Coatings and paints, thinners, paint removers (PC9a)

Product (article) characteristics

Physical form of product:

Liquid

Concentration of substance in product:

Covers concentrations up to 50 %

Amount used, frequency and duration of use/exposure

Amounts used:

Amount per use 74 g

Frequency:

Use frequency 6 days per year

Frequency:

1 events per day

Product Categories

Other conditions affecting consumers exposure

Additional conditions human health

Covers skin contact area up to 428.75 cm²

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

Coatings and paints, thinners, paint removers (PC9a)

Product (article) characteristics

Physical form of product:

Liquid

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

Frequency:

Use frequency 2 days per year

Frequency: 1 events per day	
Other conditions affecting c	onsumers exposure
Room size: Covers use in a one car g	arage (>34 m ³) under typical ventilation.
3.2. CS12: Consumer Contribut	ting Scenario: Consumer (PC9a)
Product Categories	Coatings and paints, thinners, paint removers (PC9a)
Product (article) characteri	stics
Physical form of product: Liquid	
Concentration of substance in Covers concentrations up to 50 %	-
Amount used, frequency and	d duration of use/exposure
Amounts used: Amount per use 49 g	
Frequency: Use frequency 3 days per year	
Frequency: 1 events per day	
Other conditions affecting c	onsumers exposure
Additional conditions human l Covers skin contact area up to 857	
3.2. CS13: Consumer Contribut	ting Scenario: Consumer (PC9b)
Product Categories	Fillers, putties, plasters, modelling clay (PC9b)
Product (article) characteri	stics
Physical form of product: Liquid	
Concentration of substance in Covers concentrations up to 20 %	
Amount used, frequency and	l duration of use/exposure
Amounts used: Amount per use 85 g	
Frequency: Use frequency 12 days per year	
Frequency: 1 events per day	
Other conditions affecting c	-
Additional conditions human l Covers skin contact area up to 37.	
	ting Scenario: Consumer (PC9b)
Product Categories	Fillers, putties, plasters, modelling clay (PC9b)
Product (article) characteri	stics

Physical form of product:

Liquid

Concentration of substance in product:

Covers concentrations up to 2 %

Amount used, frequency and duration of use/exposure

Amounts used:

Amount per use 13 g

Frequency:

Use frequency 12 days per year

Frequency:

1 events per day

Other conditions affecting consumers exposure

Additional conditions human health

Covers skin contact area up to 37.5 cm²

3.2. CS15: Consumer Contributing Scenario: Consumer (PC9b)

Product Categories

Fillers, putties, plasters, modelling clay (PC9b)

Product (article) characteristics

Physical form of product:

Liquid

Concentration of substance in product:

Covers concentrations up to 20 %

Amount used, frequency and duration of use/exposure

Frequency:

Use frequency 365 days per year

Frequency:

1 events per day

Other conditions affecting consumers exposure

Additional conditions human health

Covers skin contact area up to 254.5 cm²

3.2. CS16: Consumer Contributing Scenario: Consumer

Product (Sub-)Categories Finger paints (PC9c)

Product (article) characteristics

Physical form of product:

Liquid

Concentration of substance in product:

Covers concentrations up to 20 %

Amount used, frequency and duration of use/exposure

Frequency:

Use frequency 365 days per year

Frequency:

1 events per day

Other conditions affecting consumers exposure

Additional conditions human health

Covers skin contact area up to 254.5 cm²

Product (article) characteristics Physical form of product: Liquid Concentration of substance in produ Covers percentage substance in the prod Amount used, frequency and durce Amounts used: Amount per use 2 g Frequency: Levents per day Other conditions affecting consum Additional conditions human health Covers skin contact area up to 468 cm ² 3.2. CS18: Consumer Contributing Sc Product Categories Lubri Product (article) characteristics Physical form of product: Liquid Concentration of substance in produ Covers concentrations up to 20 % Amount used, frequency and durce Amounts used: Amount used frequency and durce Amount used frequency and durce Covers concentrations up to 20 % Amount used frequency and durce Amounts used: Amount per use 3 g Frequency: Use frequency 10 days per year	auct up to 100 %. Intion of use/exposure Inters exposure Inters Consumer (PC24) Interaction Consumer (PC24) Interaction Consumer (PC24) Interaction Consumer (PC24) Interaction Consumer (PC24)
Physical form of product: Liquid Concentration of substance in product Covers percentage substance in the product Amount used, frequency and durce Amounts used: Amount per use 2 g Frequency: 1 events per day Other conditions affecting consum Additional conditions human health Covers skin contact area up to 468 cm ² 3.2. CS18: Consumer Contributing So Product Categories Lubri Product (article) characteristics Physical form of product: Liquid Concentration of substance in product Covers concentrations up to 20 % Amount used, frequency and durce Amount used frequency and durce Amount used frequency and durce Covers concentrations up to 20 % Amount used frequency and durce Amount used frequency and durce Covers concentrations up to 20 % Concentration of substance in product Covers concentrations up to 20 % Covers conce	auct up to 100 %. Intion of use/exposure Inters exposure Inters Consumer (PC24) Interaction Consumer (PC24) Interaction Consumer (PC24) Interaction Consumer (PC24) Interaction Consumer (PC24)
Concentration of substance in produce overs percentage substance in the product amount used, frequency and durat Amounts used: Amounts used: Amount per use 2 g Frequency: Use frequency 4 days per year Frequency: 1 events per day Other conditions affecting consum Additional conditions human health Covers skin contact area up to 468 cm ² 3.2. CS18: Consumer Contributing Sc Product Categories Lubri Product Categories Lubri Product (article) characteristics Physical form of product: Liquid Concentration of substance in produc Covers concentrations up to 20 % Amount used, frequency and durat Amounts used: Amount per use 3 g Frequency: Use frequency 10 days per year Frequency:	auct up to 100 %. Intion of use/exposure Inters exposure Inters Consumer (PC24) Interaction Consumer (PC24) Interaction Consumer (PC24) Interaction Consumer (PC24) Interaction Consumer (PC24)
Amount used, frequency and durd Amounts used: Amount per use 2 g Frequency: 1 events per day Other conditions affecting consur Additional conditions human health Covers skin contact area up to 468 cm ² 3.2. CS18: Consumer Contributing Sc Product Categories Lubri Product (article) characteristics Physical form of product: Liquid Concentration of substance in product Covers concentrations up to 20 % Amount used, frequency and durd Amounts used: Amount per use 3 g Frequency: Use frequency 10 days per year Frequency:	auct up to 100 %. Intion of use/exposure Inters exposure Inters Consumer (PC24) Interaction Consumer (PC24) Interaction Consumer (PC24) Interaction Consumer (PC24) Interaction Consumer (PC24)
Amounts used: Amount per use 2 g Frequency: Use frequency 4 days per year Frequency: 1 events per day Other conditions affecting consum Additional conditions human health Covers skin contact area up to 468 cm ² 3.2. CS18: Consumer Contributing Sc Product Categories Lubri Product (article) characteristics Physical form of product: Liquid Concentration of substance in produ Covers concentrations up to 20 % Amount used, frequency and durce Amounts used: Amount per use 3 g Frequency: Use frequency 10 days per year Frequency:	ners exposure cenario: Consumer (PC24) icants, greases, release products (PC24)
Frequency: Use frequency 4 days per year Frequency: 1 events per day Other conditions affecting consurt Additional conditions human health Covers skin contact area up to 468 cm ² 3.2. CS18: Consumer Contributing So Product Categories Lubri Product (article) characteristics Physical form of product: Liquid Concentration of substance in product Covers concentrations up to 20 % Amount used, frequency and duro Amounts used: Amount per use 3 g Frequency: Use frequency 10 days per year Frequency:	cenario: Consumer (PC24) icants, greases, release products (PC24)
Use frequency 4 days per year Frequency: 1 events per day Other conditions affecting consum Additional conditions human health Covers skin contact area up to 468 cm ² 3.2. CS18: Consumer Contributing Sc Product Categories Lubri Product (article) characteristics Physical form of product: Liquid Concentration of substance in produ Covers concentrations up to 20 % Amount used, frequency and durce Amount used frequency and durce Amount used frequency and set and the set an	cenario: Consumer (PC24) icants, greases, release products (PC24)
Other conditions affecting consurt Additional conditions human health Covers skin contact area up to 468 cm ² 3.2. CS18: Consumer Contributing Set Product Categories Lubri Product (article) characteristics Physical form of product: Liquid Concentration of substance in product covers concentrations up to 20 % Amount used, frequency and durce Amount per use 3 g Frequency: Use frequency 10 days per year Frequency:	cenario: Consumer (PC24) icants, greases, release products (PC24)
1 events per day Other conditions affecting consum Additional conditions human health Covers skin contact area up to 468 cm ² 3.2. CS18: Consumer Contributing So Product Categories Lubri Product (article) characteristics Physical form of product: Liquid Concentration of substance in production Covers concentrations up to 20 % Amount used, frequency and durce Amounts used: Amount per use 3 g Frequency: Use frequency 10 days per year Frequency:	cenario: Consumer (PC24) icants, greases, release products (PC24)
Additional conditions human health Covers skin contact area up to 468 cm ² 3.2. CS18: Consumer Contributing So Product Categories Lubri Product (article) characteristics Physical form of product: Liquid Concentration of substance in produ Covers concentrations up to 20 % Amount used, frequency and duro Amounts used: Amount per use 3 g Frequency: Use frequency 10 days per year Frequency:	cenario: Consumer (PC24) icants, greases, release products (PC24)
Covers skin contact area up to 468 cm ² 3.2. CS18: Consumer Contributing So Product Categories Lubri Product (article) characteristics Physical form of product: Liquid Concentration of substance in product Covers concentrations up to 20 % Amount used, frequency and durce Amount sused: Amount per use 3 g Frequency: Use frequency 10 days per year Frequency:	cenario: Consumer (PC24) icants, greases, release products (PC24)
3.2. CS18: Consumer Contributing So Product Categories Lubri Product (article) characteristics Physical form of product: Liquid Concentration of substance in production Covers concentrations up to 20 % Amount used, frequency and durce Amounts used: Amount per use 3 g Frequency: Use frequency 10 days per year Frequency:	cants, greases, release products (PC24)
Product (article) characteristics Physical form of product: Liquid Concentration of substance in produ Covers concentrations up to 20 % Amount used, frequency and durce Amounts used: Amount per use 3 g Frequency: Use frequency 10 days per year Frequency:	
Physical form of product: Liquid Concentration of substance in produce Covers concentrations up to 20 % Amount used, frequency and durce Amounts used: Amount per use 3 g Frequency: Use frequency 10 days per year Frequency:	- •
Liquid Concentration of substance in produce Covers concentrations up to 20 % Amount used, frequency and durce Amounts used: Amount per use 3 g Frequency: Use frequency 10 days per year Frequency:	- •
Amount used, frequency and durd Amounts used: Amount per use 3 g Frequency: Use frequency 10 days per year Frequency:	
Frequency: Use frequency 10 days per year Frequency:	
Amount per use 3 g Frequency: Use frequency 10 days per year Frequency:	ation of use/exposure
Use frequency 10 days per year Frequency:	
1 events per day	
Other conditions affecting consum	MORE OVIDOGUNO
Additional conditions human health	-
Covers skin contact area up to 468 cm ²	
3.2. CS19: Consumer Contributing So	cenario: Consumer (PC24)
Product Categories Lubri	cants, greases, release products (PC24)
Product (article) characteristics	
Physical form of product: Liquid	
Amount used, frequency and durc	

Frequency: Use frequency 6 days per year			
1 events per day			
Other conditions affecting consumers exposure			
Additional conditions human health			
Covers skin contact area up to 428.75 cm ²			
3.2. CS20: Consumer Contributing Scenario: Consumer (PC35)			
Product CategoriesWashing and cleaning products (PC35)			
Product (article) characteristics			
Physical form of product: Liquid			
Amount used, frequency and duration of use/exposure			
Frequency: Use frequency 6 days per year			
Fraguancy			
Frequency: 1 events per day			
Other conditions affecting consumers exposure			
Additional conditions human health Covers skin contact area up to 857.5 cm ²			
3.2. CS21: Consumer Contributing Scenario: Consumer (PC35)			
Product Categories Washing and cleaning products (PC35)			
Product (article) characteristics			
Physical form of product: Liquid			
Amount used, frequency and duration of use/exposure			
Frequency: Use frequency 128 days per year			
Frequency:			
1 events per day			
Other conditions affecting consumers exposure			
Additional conditions human health Covers skin contact area up to 857.5 cm ²			
3.2. CS22: Consumer Contributing Scenario: Consumer (PC35)			
Product CategoriesWashing and cleaning products (PC35)			
Product (article) characteristics			
Physical form of product: Liquid			
Amount used, frequency and duration of use/exposure			
Frequency: Use frequency 128 days per year			
Frequency: 1 events per day			
Other conditions affecting consumers exposure			

Additional conditions hur Covers skin contact area up		
3.2. CS23: Consumer Con	tributing Scenario: Consumer (PC35)	
Product Categories	Washing and cleaning products (PC35)	
Product (article) characteristics		
Physical form of product: Liquid		
Amount used, frequency	y and duration of use/exposure	
Amounts used: Amount per use 12 g		
Frequency: Use frequency 365 days pe	r year	
Frequency: 1 events per day		
Other conditions affecti	ng consumers exposure	

Other conditions affecting consumers exposure

Room size: Covers use in room size of 20 m³

3.3 Exposure estimation and reference to its source

3.2. CS1: Consumer Contributing Scenario: Consumer (PC3)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	0.1 mg/m³	N/A	0.001
dermal, systemic, long-term	142.67 mg/kg bw/day	N/A	0.447
combined routes, systemic, long-term	N/A	N/A	0.448

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

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	0.83 mg/m ³	N/A	0.009
dermal, systemic, long-term	N/A	N/A	0
combined routes, systemic, long-term	N/A	N/A	0.009

3.2. CS3: Consumer Contributing Scenario: Consumer (PC4)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	0.01 mg/m ³	N/A	0
dermal, systemic, long-term	N/A	N/A	0
combined routes, systemic, long-term	N/A	N/A	0

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

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	9.04 mg/m³	N/A	0.102
dermal, systemic, long-term	35.67 mg/kg bw/day	N/A	0.112
combined routes, systemic, long-term	N/A	N/A	0.214

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

ure level Calculation method	Risk Characterization Ratio (RCR)
ng/m³ N/A	0.006
mg/kg bw/day N/A	0.056
N/A	0.177
	mg/kg bw/day N/A

3.2. CS6: Consumer Contributing Scenario: Consumer (PC8)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	6.75 mg/m³	N/A	0.076
dermal, systemic, long-term	0.71 mg/kg bw/day	N/A	0.002
combined routes, systemic, long-term	N/A	N/A	0.078

3.2. CS7: Consumer Contributing Scenario: Consumer (PC8)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	8.42 mg/m³	N/A	0.095
dermal, systemic, long-term	71.46 mg/kg bw/day	N/A	0.224
combined routes, systemic, long-term	N/A	N/A	0.319

3.2. CS8: Consumer Contributing Scenario: Consumer (PC8)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	5.78 mg/m³	N/A	0.065
dermal, systemic, long-term	35.87 mg/kg bw/day	N/A	0.112
combined routes, systemic, long-term	N/A	N/A	0.177

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

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	38.53 mg/m³	N/A	0.433
dermal, systemic, long-term	0.39 mg/kg bw/day	N/A	0.001
combined routes, systemic, long-term	N/A	N/A	0.434

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

Exposure level	Calculation method	Risk Characterization Ratio (RCR)
15.15 mg/m³	N/A	0.17
0.57 mg/kg bw/day	N/A	0.002
N/A	N/A	0.172
	15.15 mg/m ³ 0.57 mg/kg bw/day	15.15 mg/m³ N/A 0.57 mg/kg bw/day N/A

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

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	34.29 mg/m ³	N/A	0.385
dermal, systemic, long-term	0 mg/kg bw/day	N/A	0
combined routes, systemic, long-term	N/A	N/A	0.385

3.2. CS12: Consumer Contributing Scenario: Consumer (PC9a)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	4.9 mg/m³	N/A	0.055
dermal, systemic, long-term	0.59 mg/kg bw/day	N/A	0.002
combined routes, systemic, long-term	N/A	N/A	0.057

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

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	53.63 mg/m³	N/A	0.603
dermal, systemic, long-term	1.19 mg/kg bw/day	N/A	0.004
combined routes, systemic, long-term	N/A	N/A	0.607

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

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	22.02 mg/m³	N/A	0.247
dermal, systemic, long-term	0.09 mg/kg bw/day	N/A	0
combined routes, systemic, long-term	N/A	N/A	0.247

3.2. CS15: Consumer Contributing Scenario: Consumer (PC9b)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
oral, systemic, long-term	20 mg/kg bw/day	N/A	0.769
dermal, systemic, long-term	2.54 mg/kg bw/day	N/A	0.008
combined routes, systemic, long-term	N/A	N/A	0.777

3.2. CS16: Consumer Contributing Scenario: Consumer

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
oral, systemic, long-term	20.25 mg/kg bw/day	N/A	0.779
dermal, systemic, long-term	38.16 mg/kg bw/day	N/A	0.12
combined routes, systemic, long-term	N/A	N/A	0.899

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

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	3.98 mg/m³	N/A	0.045
dermal, systemic, long-term	78 mg/kg bw/day	N/A	0.245
combined routes, systemic, long-term	N/A	N/A	0.29

3.2. CS18: Consumer Contributing Scenario: Consumer (PC24)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	0 mg/m³	N/A	0
dermal, systemic, long-term	15.6 mg/kg bw/day	N/A	0.049
combined routes, systemic, long-term	N/A	N/A	0.049

3.2. CS19: Consumer Contributing Scenario: Consumer (PC24)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	12.06 mg/m ³	N/A	0.136
dermal, systemic, long-term	35.73 mg/kg bw/day	N/A	0.112
combined routes, systemic, long-term	N/A	N/A	0.29

3.2. CS20: Consumer Contributing Scenario: Consumer (PC35)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	0.75 mg/m³	N/A	0.008
dermal, systemic, long-term	0.71 mg/kg bw/day	N/A	0.002
combined routes, systemic, long-term	N/A	N/A	0.01

3.2. CS21: Consumer Contributing Scenario: Consumer (PC35)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	8.42 mg/m ³	N/A	0.095
dermal, systemic, long-term	71.46 mg/kg bw/day	N/A	0.224
combined routes, systemic, long-term	N/A	N/A	0.319

3.2. CS22: Consumer Contributing Scenario: Consumer (PC35)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	5.78 mg/m ³	N/A	0.065
dermal, systemic, long-term	35.67 mg/kg bw/day	N/A	0.112
combined routes, systemic, long-term	N/A	N/A	0.177

3.2. CS23: Consumer Contributing Scenario: Consumer (PC35)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	9.4 mg/m ³	N/A	0.106
dermal, systemic, long-term	0 mg/kg bw/day	N/A	0
combined routes, systemic, long-term	N/A	N/A	0.106

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.