UNIQUE® BEAUTY

Sikkerhedsdatablad

i henhold til forordning (EF) nr. 1907/2006 (REACH)

1020 Eukalyptusolie

Nummer for version: V 1.0 Dato for udstedelse: 09.02.2023

PUNKT 1: Identifikation af stoffet/blandingen og af selskabet/virksomheden

1.1 Produktidentifikator

Identifikation af stoffet	**Eukalyptusolie**
Registreringsnummer (REACH)	01-2119978250-37-xxxx
EF-nummer	283-406-2
CAS-nummer	84625-32-1, 8000-48-4
Artikelnummer	0000 1020
Unik formel identifikator (UFI)	FM00-Y02W-600V-FS71

1.2 Relevante identificerede anvendelser for stoffet eller blandingen samt anvendelser, der frarådes

Relevante identificerede anvendelser	Faglig anvendelse
Anvendelser, der frarådes	Produktet er ikke beregnet til forbrugeranvendelse.

1.3 Nærmere oplysninger om leverandøren af sikkerhedsdatabladet

UNIQUE PRODUCTS APS, GØRTLERVEJ 6, DK-7000 FREDERICIA

TLF. +45 40194002 E-MAIL (kompetent person): hr@unique-products.dk

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1.4 Nødtelefon

Kontakt Giftlinjen på telefon +45 82 12 12 12 (åbent 24 timer i døgnet).
Se punkt 4 om førstehjælpsforanstaltninger.

PUNKT 2: Fareidentifikation

2.1 Klassificering af stoffet eller blandingen

Klassificering i henhold til forordning (EF) nr. 1272/2008 (CLP)

Punkt	Fareklasse	Fareklasse og -kategori	Faresætning
2.6	brandfarlig væske	Flam. Liq. 3	H226
3.2	hudætsning/hudirritation	Skin Irrit. 2	H315
3.4S	hudsensibilisering	Skin Sens. 1	H317
3.7	reproduktionstoksicitet	Repr. 2	H361
3.10	aspirationsfare	Asp. Tox. 1	H304
4.1C	farlig for vandmiljøet, kronisk (langvarig) fare	Aquatic Chronic 2	H411

Den fulde ordlyd af forkortelser: se PUNKT 16.

2.2 Mærkningselementer

Mærkning i henhold til forordning (EF) nr. 1272/2008 (CLP)

- Signalord fare

- Piktogrammer

GHS02, GHS07, GHS08, GHS09

- Faresætninger

H226	Brandfarlig væske og damp.
H304	Kan være livsfarligt, hvis det indtages og kommer i luftvejene.
H315	Forårsager hudirritation.
H317	Kan forårsage allergisk hudreaktion.
H361	Mistænkt for at skade forplantningsevnen eller det ufødte barn.
H411	Giftig for vandlevende organismer, med langvarige virkninger.

- Sikkerhedssætninger

P210	Holdes væk fra varme, varme overflader, gnister, åben ild og andre antændelseskilder. Rygning forbudt.
P280	Bær beskyttelseshandsker/beskyttelsestøj/øjenbeskyttelse/ansigtsbeskyttelse/høreværn/....
P301+P310	I TILFÆLDE AF INDTAGELSE: Ring omgående til en GIFTINFORMATION/læge.
P331	Fremkald IKKE opkastning.
P370+P378	Ved brand: anvend sand, kuldioxid eller brandslukker til brandslukning.
P403+P235	Opbevares på et godt ventileret sted. Opbevares køligt.
P405	Opbevares under lås.
P501	Indholdet/beholderen bortskaffes i overensstemmelse med lokale/regionale/nationale/internationale regler.

2.3 Andre farer

Hormonforstyrrende egenskaber

Indeholder ikke et hormonforstyrrende stof (EDC) med en koncentration på ≥ 0,1%.

PUNKT 3: Sammensætning af/oplysning om indholdsstoffer

3.1 Stoffer

Stoffets navn	Eucalyptus Oil (UVCB)
Identifikatorer	
REACH reg. nr.	01-2119978250-37-xxxx
CAS-nr.	84625-32-1, 8000-48-4
EF-nr.	283-406-2

Urenheder og tilsætningsstoffer, klassificering iht. GHS

Stoffets navn	Produktidentifikator	Vægt%
Eukalyptol (1.8-Cineol)	CAS-nr. 470-82-6 EF-nr. 207-431-5	75 – < 90
(R)-p-mentha-1,8-dien	CAS-nr. 5989-27-5 68606-81-5 EF-nr. 227-813-5	7,5 – < 10

Urenheder og tilsætningsstoffer, klassificering iht. GHS

Stoffets navn	Produktidentifikator	Vægt%
alpha-Pinene	CAS-nr. 80-56-8 EF-nr. 201-291-9	3 – < 5
p-cymen	CAS-nr. 99-87-6 EF-nr. 202-796-7	3 – < 5
gamma-Terpinene	CAS-nr. 99-85-4 EF-nr. 202-794-6	1 – < 3
p-mentha-1,3-dien	CAS-nr. 99-86-5 EF-nr. 202-795-1	1 – < 3
alpha-Phellandrene	CAS-nr. 99-83-2 EF-nr. 202-792-5	< 1
Myrcene	CAS-nr. 123-35-3 EF-nr. 204-622-5	< 1
beta-Pinene	CAS-nr. 127-91-3 EF-nr. 204-872-5	< 1

Den fulde ordlyd af forkortelser: se PUNKT 16.

PUNKT 4: Førstehjælpsforanstaltninger

4.1 Beskrivelse af førstehjælpsforanstaltninger

Generelle bemærkninger

Efterlad ikke ofret alene. Fjern ofret fra farezonen. Sørg for, at personen er varm, ikke bevæger sig og er tildækket. Tilsmudset tøj tages straks af. I alle tilfælde af tvivl, eller hvis symptomer vedvarer, søges læge. I tilfælde af bevidstløshed placeres personen i hvilestilling. Giv aldrig noget i munden.

Efter indånding

Hvis vejrtrækningen er uregelmæssig eller stoppet, søges øjeblikkeligt lægehjælp, og førstehjælp begyndes. Kontakt en læge i tilfælde af irritation af luftvejene. Sørg for frisk luft.

Efter hudkontakt

Vask med rigeligt sæbe og vand.

Efter øjenkontakt

Fjern eventuelle kontaktlinser, hvis dette kan gøres let. Fortsæt skylning. Skyl grundigt med rent, frisk vand i mindst 10 minutter og åbn øjnene godt op.

Efter indtagelse

Skyl munden med vand (kun hvis personen er ved bevidsthed). Fremkald IKKE opkastning.

4.2 Vigtigste symptomer og virkninger, både akutte og forsinkede

Symptomer og virkninger er endnu ikke kendte.

4.3 Angivelse af om øjeblikkelig lægehjælp og særlig behandling er nødvendig

ingen

PUNKT 5: Brandbekæmpelse

5.1 Slukningsmidler

Egnede slukningsmidler

Vandspraystråle, BC-pulver, Carbondioxid (CO2)

Uegnede slukningsmidler

Vandstråle

5.2 Særlige farer i forbindelse med stoffet eller blandingen

I tilfælde af utilstrækkelig ventilation og/eller ved brug kan brandbare/eksplosive damp-luftblandinger dannes. Opløsningsmiddeldampe er tungere end luft og spredes langs gulvet. Det kan navnlig forventes, at der er brændbare stoffer eller blandinger til stede i områder, som ikke ventileres, f.eks. uventilerede underjordiske områder som gruber, kanaler og skakte.

Farlige forbrændingsprodukter

Carbonmonoxid (CO), Carbondioxid (CO2)

5.3 Anvisninger for brandmandskab

Undgå at indånde røgen ved brand eller eksplosion. Afstem brandbekæmpelsen efter omgivelserne. Lad ikke brandslukningsvand løbe ned i afløb eller vandløb. Opsaml forurenet brandslukningsvand separat. Træf normale foranstaltninger mod brand og bekæmp den på en fornuftig afstand.

PUNKT 6: Forholdsregler over for udslip ved uheld

6.1 Personlige sikkerhedsforanstaltninger, personlige værnemidler og nødprocedurer

For ikke-indsatspersonel

Flyt personen i sikkerhed.

For indsatspersonel

Brug vejrtrækningsapparat hvis udsat for dampe/støv/tåge/gasser.

6.2 Miljøbeskyttelsesforanstaltninger

Holdes væk fra afløb, overfladevand og grundvand. Opsaml forurenet vaskevand og bortskaf det. Hvis stoffet er kommet ned i vandløb eller kloak, skal den ansvarlige myndighed informeres.

6.3 Metoder og udstyr til inddæmning og oprensning

Råd om, hvordan spild inddæmmes

Tildækning af afløb

Råd om, hvordan der renses op efter spild

Tørres op med absorberende materiale (f.eks. klud, fleece). Udslip opsamles: savsmuld, kiselgur (diatomit), sand, universelt bindemiddel

Egnede inddæmningsteknikker

Brug af absorberende materiale.

Andre oplysninger om spild og udslip

Placeres i egnede beholdere til bortskaffelse. Udluft det berørte område.

6.4 Henvisning til andre punkter

Farlige forbrændingsprodukter: se punkt 5. Personlige værnemidler: se punkt 8. Materialer, der skal undgås: se punkt 10. Forhold vedrørende bortskaffelse: se punkt 13.

PUNKT 7: Håndtering og opbevaring

7.1 Forholdsregler for sikker håndtering

Anbefalinger

- Foranstaltninger til at undgå brand og aerosol- og støvdannelse

Anvend lokal og almen ventilation. Undgåelse af tændkilder. Holdes væk fra antændelseskilder - Rygning forbudt. Træf foranstaltninger mod statisk elektricitet. Må kun bruges på steder med god ventilation. På grund af eksplosionsfare skal damplækage i kældre, røgkanaler og kanaler forhindres. Beholder og modtageudstyr jordforbindes/potentialudlignes. Anvend eksplosionssikkert elektrisk/ventilations-/lys-/udstyr. Anvend kun værktøj, som ikke frembringer gnister.

- Specifikke anvisninger/oplysninger

Det kan navnlig forventes, at der er brændbare stoffer eller blandinger til stede i områder, som ikke ventileres, f.eks. uventilerede underjordiske områder som gruber, kanaler og skakte. Dampe er tungere end luft, spredes langs gulvet og kan danne eksplosive blandinger med luft. Dampe kan danne eksplosive blandinger med luft.

Råd om generel hygiejne

Vask hænder efter håndtering. Undlad at spise, drikke og ryge i arbejdsområderne. Tag forurenet tøj og personlige værnemidler af, inden man bevæger sig ind i et område, hvor der spises. Opbevar aldrig mad eller drikkevarer i nærheden af kemikalier. Opbevar aldrig kemikalier i beholdere, der som regel anvendes til mad og drikkevarer. Må ikke opbevares sammen med fødevarer, drikkevarer og foderstoffer.

7.2 Betingelser for sikker opbevaring, herunder eventuel uforenelighed

Håndtering af forbundne risici

- Eksplosiv atmosfære

Emballagen skal holdes tæt lukket og opbevares på et godt ventileret sted. Anvend lokal og almen ventilation. Opbevares køligt. Beskyttes mod sollys.

- Brandfare

Holdes væk fra antændelseskilder - Rygning forbudt. Holdes væk fra varme/gnister/åben ild/varme overflader. Rygning forbudt. Træf foranstaltninger mod statisk elektricitet. Beskyttes mod sollys.

- Krav til ventilation

Anvend lokal og almen ventilation. Beholder og modtageudstyr jordforbindes/potentialudlignes.

- Egnet emballage

Det er kun tilladt at benytte emballager, som er godkendt (f.eks. iht. ADR).

7.3 Særlige anvendelser

Se punkt 16 for en generel oversigt.

PUNKT 8: Eksponeringskontrol/personlige værnemidler

8.1 Kontrolparametre

OEL-værdier (grænseværdier for erhvervsmæssig eksponering)

Land	Betegnelse	CAS-nr.	Produktidentifikator	TWA [ppm]	TWA [mg/m³]	KTV [ppm]	KTV [mg/m³]	Loftværdi [ppm]	Loftværdi [mg/m³]	Anmærkning	Kilde
DK	p-methylisopropylbenzen	99-87-6	GV	25	135	50	270				BEK nr 1054

Anmærkning

KTV	grænseværdi for kortvarig eksponering: Værdierne gælder for en eksponeringsperiode på 15 minutter, medmindre andet er angivet
loftværdi	ceiling value er en grænseværdi for eksponering, der ikke må overskrides
TWA	tidsvægtet gennemsnit (langvarig eksponeringsgrænse): Målt eller udregnet i forhold til en referenceperiode på otte timers tidsvægtet gennemsnitseksponering

Værdier for menneskets sundhed

Relevante DNEL- og andre tærskelværdier

Endpunkt	Tærskelværdi	Beskyttelsesmål, eksponeringsvej	Anvendt i	Eksponeringstid
DNEL	3,52 mg/m³	menneske, indånding	industriarbejder	kroniske systemiske virkninger
DNEL	1 mg/kg kropsvægt/dag	menneske, dermal	industriarbejder	kroniske systemiske virkninger

Relevante DNEL'er for blandingens komponenter

Stoffets navn	CAS-nr.	Endpunkt	Tærskelværdi	Beskyttelsesmål, eksponeringsvej	Anvendt i	Eksponeringstid
Eukalyptol (1.8-Cineol)	470-82-6	DNEL	7,05 mg/m³	menneske, indånding	industriarbejder	kroniske systemiske virkninger
Eukalyptol (1.8-Cineol)	470-82-6	DNEL	2 mg/kg kropsvægt/dag	menneske, dermal	industriarbejder	kroniske systemiske virkninger
(R)-p-mentha-1,8-dien	5989-27-5 68606-81-5	DNEL	66,7 mg/m³	menneske, indånding	industriarbejder	kroniske systemiske virkninger
(R)-p-mentha-1,8-dien	5989-27-5 68606-81-5	DNEL	9,5 mg/kg kropsvægt/dag	menneske, dermal	industriarbejder	kroniske systemiske virkninger
alpha-Pinene	80-56-8	DNEL	3,8 mg/m³	menneske, indånding	industriarbejder	kroniske systemiske virkninger
alpha-Pinene	80-56-8	DNEL	0,542 mg/kg kropsvægt/dag	menneske, dermal	industriarbejder	kroniske systemiske virkninger
gamma-Terpinene	99-85-4	DNEL	2,939 mg/m³	menneske, indånding	industriarbejder	kroniske systemiske virkninger
gamma-Terpinene	99-85-4	DNEL	0,833 mg/kg kropsvægt/dag	menneske, dermal	industriarbejder	kroniske systemiske virkninger

Relevante DNEL'er for blandingens komponenter

Stoffets navn	CAS-nr.	End-punkt	Tærskel-værdi	Beskyttelses-mål, eksponeringsvej	Anvendt i	Eksponeringstid
beta-Pinene	127-91-3	DNEL	5,69 mg/m³	menneske, indånding	industriarbejder	kroniske systemiske virkninger
beta-Pinene	127-91-3	DNEL	0,8 mg/kg krop-svægt/dag	menneske, dermal	industriarbejder	kroniske systemiske virkninger
beta-Pinene	127-91-3	DNEL	54 µg/cm²	menneske, dermal	industriarbejder	kroniske lokale virkninger

Relevante PNEC'er for blandingens komponenter

Stoffets navn	CAS-nr.	End-punkt	Tærskel-værdi	Organisme	Delmiljø	Eksponeringstid
Eukalyptol (1.8-Cineol)	470-82-6	PNEC	57 µg/l	vandorganismer	ferskvand	kortvarigt (enkelt tilfælde)
Eukalyptol (1.8-Cineol)	470-82-6	PNEC	5,7 µg/l	vandorganismer	havvand	kortvarigt (enkelt tilfælde)
Eukalyptol (1.8-Cineol)	470-82-6	PNEC	10 mg/l	vandorganismer	spildevandsbehandlingsanlæg (STP)	kortvarigt (enkelt tilfælde)
Eukalyptol (1.8-Cineol)	470-82-6	PNEC	1,425 mg/kg	vandorganismer	ferskvandssediment	kortvarigt (enkelt tilfælde)
Eukalyptol (1.8-Cineol)	470-82-6	PNEC	0,142 mg/kg	vandorganismer	havvandssediment	kortvarigt (enkelt tilfælde)
Eukalyptol (1.8-Cineol)	470-82-6	PNEC	0,25 mg/kg	jordorganismer	jord	kortvarigt (enkelt tilfælde)
(R)-p-mentha-1,8-dien	5989-27-5 68606-81-5	PNEC	14 µg/l	vandorganismer	ferskvand	kortvarigt (enkelt tilfælde)
(R)-p-mentha-1,8-dien	5989-27-5 68606-81-5	PNEC	1,4 µg/l	vandorganismer	havvand	kortvarigt (enkelt tilfælde)
(R)-p-mentha-1,8-dien	5989-27-5 68606-81-5	PNEC	1,8 mg/l	vandorganismer	spildevandsbehandlingsanlæg (STP)	kortvarigt (enkelt tilfælde)
(R)-p-mentha-1,8-dien	5989-27-5 68606-81-5	PNEC	3,85 mg/kg	vandorganismer	ferskvandssediment	kortvarigt (enkelt tilfælde)
(R)-p-mentha-1,8-dien	5989-27-5 68606-81-5	PNEC	0,385 mg/kg	vandorganismer	havvandssediment	kortvarigt (enkelt tilfælde)
(R)-p-mentha-1,8-dien	5989-27-5 68606-81-5	PNEC	0,763 mg/kg	jordorganismer	jord	kortvarigt (enkelt tilfælde)
alpha-Pinene	80-56-8	PNEC	0,606 µg/l	vandorganismer	ferskvand	kortvarigt (enkelt tilfælde)
alpha-Pinene	80-56-8	PNEC	0,061 µg/l	vandorganismer	havvand	kortvarigt (enkelt tilfælde)
alpha-Pinene	80-56-8	PNEC	0,2 mg/l	vandorganismer	spildevandsbehandlingsanlæg (STP)	kortvarigt (enkelt tilfælde)

Relevante PNEC'er for blandingens komponenter

Stoffets navn	CAS-nr.	End-punkt	Tærskel-værdi	Organisme	Delmiljø	Eksponeringstid
alpha-Pinene	80-56-8	PNEC	157 µg/kg	vandorganismer	ferskvandssedi-ment	kortvarigt (enkelt tilfælde)
alpha-Pinene	80-56-8	PNEC	15,7 µg/kg	vandorganismer	havvandssediment	kortvarigt (enkelt tilfælde)
alpha-Pinene	80-56-8	PNEC	31,7 µg/kg	jordorganismer	jord	kortvarigt (enkelt tilfælde)
gamma-Terpinene	99-85-4	PNEC	0,003 mg/l	vandorganismer	ferskvand	kortvarigt (enkelt tilfælde)
gamma-Terpinene	99-85-4	PNEC	0 mg/l	vandorganismer	havvand	kortvarigt (enkelt tilfælde)
gamma-Terpinene	99-85-4	PNEC	10 mg/l	vandorganismer	spildevandsbe-handlingsanlæg (STP)	kortvarigt (enkelt tilfælde)
gamma-Terpinene	99-85-4	PNEC	0,49 mg/kg	vandorganismer	ferskvandssedi-ment	kortvarigt (enkelt tilfælde)
gamma-Terpinene	99-85-4	PNEC	0,049 mg/kg	vandorganismer	havvandssediment	kortvarigt (enkelt tilfælde)
gamma-Terpinene	99-85-4	PNEC	0,423 mg/kg	jordorganismer	jord	kortvarigt (enkelt tilfælde)
beta-Pinene	127-91-3	PNEC	1,004 µg/l	vandorganismer	ferskvand	kortvarigt (enkelt tilfælde)
beta-Pinene	127-91-3	PNEC	0,1 µg/l	vandorganismer	havvand	kortvarigt (enkelt tilfælde)
beta-Pinene	127-91-3	PNEC	3,26 mg/l	vandorganismer	spildevandsbe-handlingsanlæg (STP)	kortvarigt (enkelt tilfælde)
beta-Pinene	127-91-3	PNEC	0,337 mg/kg	vandorganismer	ferskvandssedi-ment	kortvarigt (enkelt tilfælde)
beta-Pinene	127-91-3	PNEC	0,034 mg/kg	vandorganismer	havvandssediment	kortvarigt (enkelt tilfælde)
beta-Pinene	127-91-3	PNEC	0,067 mg/kg	jordorganismer	jord	kortvarigt (enkelt tilfælde)

8.2 Eksponeringskontrol

Egnede foranstaltninger til eksponeringskontrol

Almen ventilation.

Individuelle beskyttelsesforanstaltninger (personlige værnemidler)

Beskyttelse af øjne/ansigt

Brug beskyttelsesbriller/ansigtsskærm.

Beskyttelse af hud

- Beskyttelse af hænder

Brug egnede beskyttelseshandsker. Kemiske beskyttelseshandsker, som er testet i henhold til EN 374, er egnede. Kontroller tæthed/gennemtrængelighed før anvendelse. Hvis handskerne skal bruges igen, skal de rengøres, inden de tages af, og luftes grundigt. Til specielle formål anbefales det at kontrollere beskyttelseshandskernes modstands-dygtighed over for kemikaler i samarbejde med producenten af disse handsker.

- Materialetype

NBR: akrylonitrilbutadiengummi

- Materialetykkelse

> 0,7 mm

- Gennemtrængningstid af handskematerialet

>10 minutter (permeation: trin 1)

- Andre beskyttelsesforanstaltninger

Tillad perioder til hudregenerering. Forebyggende hudbeskyttelse (beskyttende creme/salve) anbefales. Vask hænderne grundigt efter brug.

Åndedrætsværn

Ved utilstrækkelig udluftning anvendes åndedrætsværn.
Halvmaske med filter (EN 149). Type: A (mod organiske gasser og dampe med et kogepunkt på > 65 °C, farvekode: brun).

Foranstaltninger til begrænsning af eksponering af miljøet

Skal indesluttes forsvarligt for at undgå miljøforurening. Holdes væk fra afløb, overfladevand og grundvand.

PUNKT 9: Fysisk-kemiske egenskaber

9.1 Oplysninger om grundlæggende fysiske og kemiske egenskaber

Fysisk tilstand	flydende
Farve	lysegul
Lugt	som kamfer
Smeltepunkt/frysepunkt	<-20 °C
Kogepunkt eller begyndelseskogepunkt og kogepunktsinterval	ikke bestemt
Antændelighed	brandfarlig væske i henhold til GHS-kriterier
Øvre og nedre eksplosionsgrænse	ikke bestemt
Flammepunkt	45,5 °C ved 101 kPa
Selvantændelsestemperatur	270 °C ved 99.057 Pa (ECHA)
Dekomponeringstemperatur	ikke relevant
pH-værdi	ikke bestemt
Kinematisk viskositet	1,79 $^{mm^2}/_{s}$ ved 40 °C
Opløselighed(er)	ikke bestemt

Fordelingskoefficient

Fordelingskoefficient n-oktanol/vand (logværdi)	3500 mg/L (QSAR)

Damptryk	ikke bestemt

Massefylde og/eller relativ massefylde

Massefylde	0,9155 $^{g}/_{cm^3}$
Relativ dampmassefylde	oplysninger om denne egenskab foreligger ikke

Partikelegenskaber	ikke relevant (flydende)

9.2 Andre oplysninger

Oplysninger vedrørende fysiske fareklasser	der foreligger ingen yderligere oplysninger

Andre sikkerhedskarakteristika

Temperaturklasse (EU, iht. ATEX)	T3 (maksimalt tilladte overfladetemperatur på udstyret: 200° C)

PUNKT 10: Stabilitet og reaktivitet

10.1 Reaktivitet

Vedrørende materialer, der skal undgås: se nedenstående "Forhold, der skal undgås" og "Materialer, der skal undgås". Det er et reaktivt stof. Blandingen indeholder reaktivt stof/reaktive stoffer. Risiko for tænding.

Ved opvarmning:

Risiko for tænding

10.2 Kemisk stabilitet

Se nedenstående "Forhold, der skal undgås".

10.3 Risiko for farlige reaktioner

Ingen kendte farlige reaktioner.

10.4 Forhold, der skal undgås

Holdes væk fra varme/gnister/åben ild/varme overflader. Rygning forbudt.

Anbefalinger til hindring af brand eller eksplosion

Anvend eksplosionssikkert elektrisk/ventilations-/lys-/udstyr. Anvend kun værktøj, som ikke frembringer gnister. Træf foranstaltninger mod statisk elektricitet.

10.5 Materialer, der skal undgås

Brandnærende

10.6 Farlige nedbrydningsprodukter

Farlige nedbrydningsprodukter, der med rimelighed kan forventes som følge af anvendelse, opbevaring, spild og opvarmning, er ikke kendte. Farlige forbrændingsprodukter: se punkt 5.

PUNKT 11: Toksikologiske oplysninger

11.1 Oplysninger om fareklasser som defineret i forordning (EF) nr. 1272/2008

Klassificering i henhold til GHS (1272/2008/EF, CLP)

Akut toksicitet

Klassificeringskriterierne for denne fareklasse er ikke opfyldt.

GHS fra de Forenede Nationer, bilag 4: Kan være farlig ved indtagelse.

Hudætsning/hudirritation

Forårsager hudirritation.

Alvorlige øjenskader/øjenirritation

Klassificeres ikke som fremkaldende alvorlig øjenskade eller øjenirritation.

Luftvejssensibilisering eller hudsensibilisering

Kan forårsage allergisk hudreaktion.

Kimcellemutagenicitet

Klassificeres ikke som kimcellemutagen.

Carcinogenicitet

Klassificeres ikke som carcinogen.

Reproduktionstoksicitet

Mistænkt for at skade det udfødte barn. Mistænkt for at skade forplantningsevnen.

Specifik målorgantoksicitet, enkel eksponering

Klassificeres ikke som specifikt målorgantoksisk (enkel eksponering).

Specifik målorgantoksicitet, gentagen eksponering

Klassificeres ikke som specifikt målorgantoksisk (gentagen eksponering).

Aspirationsfare

Kan være livsfarligt, hvis det indtages og kommer i luftvejene.

11.2 Oplysninger om andre farer

Der foreligger ingen yderligere oplysninger.

PUNKT 12: Miljøoplysninger

12.1 Toksicitet

Giftig for vandlevende organismer, med langvarige virkninger.

Toksicitet for vandmiljøet (akut)

Endpunkt	Værdi	Art	Eksponeringstid
EC50	1,64 $^{mg}/_{kg}$	alge	24 h
EC50	1,02 $^{mg}/_{kg}$	dafnie	24 h

12.2 Persistens og nedbrydelighed

Nedbrydelighed af blandingens komponenter

Stoffets navn	CAS-nr.	Proces	Halveringstid	Tid	Metode	Kilde
Eukalyptol (1.8-Cineol)	470-82-6	produktion af kuldioxid	82 %	28 d		ECHA
(R)-p-mentha-1,8-dien	5989-27-5 68606-81-5	produktion af kuldioxid	58,8 %	14 d		ECHA
(R)-p-mentha-1,8-dien	5989-27-5 68606-81-5	iltsvind	80 %	28 d		ECHA
alpha-Pinene	80-56-8	iltsvind	68 %	28 d		ECHA
p-cymen	99-87-6	iltsvind	88 %	14 d		ECHA
gamma-Terpinene	99-85-4	iltsvind	27 %	28 d		ECHA
Myrcene	123-35-3	iltsvind	76 %	28 d		ECHA

12.3 Bioakkumuleringspotentiale

Data foreligger ikke.

n-oktanol/vand (log KOW)	3500 mg/L (QSAR)

Bioakkumuleringspotentiale hos blandingens komponenter

Stoffets navn	CAS-nr.	BCF	Log KOW	BOD5/COD
Eukalyptol (1.8-Cineol)	470-82-6		3,4	
(R)-p-mentha-1,8-dien	5989-27-5 68606-81-5		4,38 (pH-værdi: 7,2, 37 °C)	
p-cymen	99-87-6		4,8 (pH-værdi: ~7, 20 °C)	
gamma-Terpinene	99-85-4		5,4 (25 °C)	
Myrcene	123-35-3		4,82 (pH-værdi: ~6,5, 30 °C)	
beta-Pinene	127-91-3		4,425 (25 °C)	

12.4 Mobilitet i jord

Data foreligger ikke.

12.5 Resultater af PBT- og vPvB-vurdering

Ifølge resultaterne af vurderingen af dette stof er det ikke et PBT- eller et vPvB-stof.

12.6 Hormonforstyrrende egenskaber

Indeholder ikke et hormonforstyrrende stof (EDC) med en koncentration på ≥ 0,1%.

12.7 Andre negative virkninger

Data foreligger ikke.

PUNKT 13: Bortskaffelse

13.1 Metoder til affaldsbehandling

Oplysninger med relevans for affaldsbehandling

Genvinding eller regenerering af opløsningsmidler.

Oplysninger med relevans for udledning af spildevandet

Må ikke tømmes i kloakafløb. Undgå udledning til miljøet. Se særlig vejledning/leverandørbrugsanvisning.

Affaldsbehandling for beholdere/emballage

Det er farligt affald; det er kun tilladt at benytte emballager, som er godkendt (f.eks. iht. ADR). Helt tømt emballage kan genanvendes. Forurenet emballage skal håndteres på samme måde som stoffet selv.

Relevante bestemmelser om affald

Beslutning 2000/532/EF om listen over affald

Produkt, Produktrest: 07 06 99 andet affald, ikke andetsteds specificeret
Emballager: 15 01 10* Emballage, som indeholder rester af eller er forurenet med farlige stoffer.
Helt tømt emballage kan genanvendes.

Bemærkninger

Tag hensyn til gældende nationale eller regionale bestemmelser. Affald skal sorteres i kategorier, som kan håndteres særskilt af de lokale eller nationale affaldshåndteringsanlæg.

PUNKT 14: Transportoplysninger

14.1 UN-nummer eller ID-nummer

ADR/RID	UN 1197
IMDG-Code	UN 1197
ICAO-TI	UN 1197

14.2 UN-forsendelsesbetegnelse (UN proper shipping name)

ADR/RID	EKSTRAKTER, FLYDENDE
IMDG-Code	EXTRACTS, LIQUID
ICAO-TI	Extracts, liquid

14.3 Transportfareklasse(r)

ADR/RID	3
IMDG-Code	3
ICAO-TI	3

14.4 Emballagegruppe

ADR/RID	III
IMDG-Code	III
ICAO-TI	III

14.5 Miljøfarer

farligt for vandmiljøet

14.6 Særlige forsigtighedsregler for brugeren

Bestemmelserne for farligt gods (ADR) skal overholdes på området.

14.7 Bulktransport til søs i henhold til IMO-instrumenter

Det er ikke hensigten at gennemføre bulktransport.

Oplysninger om hver af FN-modelbestemmelserne (UN Model Regulations)

Den konvention om international transport af farligt gods ad vej (ADR) - Yderligere information

Angivelser i transportdokumentet	UN1197, EKSTRAKTER, FLYDENDE, 3, III, (D/E), miljøfarlig
Klassifikationskode	F1
Faremærkat(er)	3, fisk og træ

Miljøfarer	ja (farligt for vandmiljøet)
Særlige bestemmelser (SB)	601
Undtagne mængder (UM)	E1
Begrænsede mængder (BM)	5 L
Transportkategori (TK)	3
Tunnelrestriktionskode (TRK)	D/E
Farenummer	30

Reglement for international befordring af farligt gods med jernbane (RID) - Yderligere information

Klassifikationskode	F1
Faremærkat(er)	3, fisk og træ

Miljøfarer	ja (farlig for vand)
Særlige bestemmelser (SB)	601
Undtagne mængder (UM)	E1
Begrænsede mængder (BM)	5 L
Transportkategori (TK)	3
Farenummer	30

International Maritime Dangerous Goods Code (IMDG-koden) - Yderligere information

Angivelser i transportdokument (shipper's declaration)	UN1197, EKSTRAKTER, FLYDENDE, ((R)-p-mentha-1,8-dien), 3, III, 45,5°C c.c., MARINE POLLUTANT
Marine pollutant	ja (farligt for vandmiljøet)
Faremærkat(er)	3, fisk og træ

Særlige bestemmelser (SB)	223, 955
Undtagne mængder (UM)	E1
Begrænsede mængder (BM)	5 L
EmS	F-E, S-D
Stuvningskategori	A

Den Internationale Organisation for Civil Luftfart (ICAO-IATA/DGR) - Yderligere information

Angivelser i transportdokument (shipper's declaration)	UN1197, Ekstrakter, flydende, 3, III
Miljøfarer	ja (farligt for vandmiljøet)
Faremærkat(er)	3

Særlige bestemmelser (SB)	A3
Undtagne mængder (UM)	E1
Begrænsede mængder (BM)	10 L

PUNKT 15: Oplysninger om regulering

15.1 Særlige bestemmelser/særlig lovgivning for stoffet eller blandingen med hensyn til sikkerhed, sundhed og miljø

Relevante bestemmelser fra Den europæiske Union (EU)

Fortegnelse over stoffer, der kræver godkendelse (REACH, bilag XIV) / SVHC - kandidatliste

ikke registreret

Seveso-direktiv

2012/18/EU (Seveso III)

Nr.	Farligt stof/farekategorier	Tærskelmængde (tons) for anvendelse af kolonne 2-krav	og kolonne 3-krav	Anv.
E2	miljøfarer (farlig for vandmiljøet, kat. 2)	200	500	57)
P5c	brandfarlige væsker (kat. 2, 3)	5.000	50.000	51)

Anmærkning
51) brandfarlige væsker, kategori 2 eller 3, ikke omfattet af P5a og P5b
57) farlig for vandmiljøet i kategori Akut 2 eller Kronisk 2

Forordning om persistente organiske miljøgifte

Ikke registreret.

Nationale fortegnelser

Land	Fortegnelse	Status
AU	AIIC	stoffet er registreret
CA	DSL	stoffet er registreret
CN	IECSC	stoffet er registreret
EU	REACH Reg.	stoffet er registreret
KR	KECI	stoffet er registreret
NZ	NZIoC	stoffet er registreret
PH	PICCS	stoffet er registreret
TR	CICR	stoffet er registreret
TW	TCSI	stoffet er registreret

Land	Fortegnelse	Status
US	TSCA	substance is listed as "ACTIVE"
EU	ECSI	stoffet er registreret

Figurtekst

AIIC	Australian Inventory of Industrial Chemicals
CICR	Chemical Inventory and Control Regulation
DSL	Domestic Substances List (DSL)
ECSI	EF-fortegnelse over stoffer (EINECS, ELINCS, NLP)
IECSC	Inventory of Existing Chemical Substances Produced or Imported in China
KECI	Korea Existing Chemicals Inventory
NZIoC	New Zealand Inventory of Chemicals
PICCS	Philippine Inventory of Chemicals and Chemical Substances (PICCS)
REACH Reg.	REACH registrerede stoffer
TCSI	Taiwan Chemical Substance Inventory
TSCA	Toxic Substance Control Act

15.2 Kemikaliesikkerhedsvurdering

En kemikaliesikkerhedsvurdering er blevet gennemført for dette stof.

PUNKT 16: Andre oplysninger

Forkortelser og akronymer

Fork.	Forklaring af anvendte forkortelser
ADR	Accord relatif au transport international des marchandises dangereuses par route (Den overenskomst om international transport af farligt gods ad vej)
BCF	Biokoncentrationsfaktor
BEK nr 1054	Bekendtgørelse om grænseværdier for stoffer og materialer
BOD	Biokemisk iltforbrug
CAS	Chemical Abstract Service (database med en fortegnelse over kemiske forbindelser)
CLP	Forordning (EF) nr. 1272/2008 om klassificering, mærkning og emballering af stoffer og blandinger
COD	Kemisk Iltforbrug
DGR	Dangerous Goods Regulations (fordning om farligt gods, se IATA/DGR)
DNEL	Derived No-Effect Level (afledt nuleffektniveau)
EC50	Effektiv Koncentration 50 %. EC50 svarer til koncentrationen af et afprøvet stof, som afføder 50 % ændringer i respons (f.eks. i vækst) i et bestemt tidsinterval
EF-nr.	EF-fortegnelsen (EINECS, ELINCS og NLP-fortegnelsen) er kilden til det syv-cifrede EF-nummer, en identifikator for markedsførte kemiske stoffer inden for EU (Den europæiske Union)
EINECS	European Inventory of Existing Commercial Chemical Substances (den europæiske fortegnelse over markedsførte kemiske stoffer)
ELINCS	European List of Notified Chemical Substances (den europæiske liste over anmeldte stoffer)
EmS	Tidsplan i Nødstilfælde
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" "Globalt Harmoniseret System til Klassificering og Mærkning af Kemikalier", udviklet af FN
GV	Grænseværdier for stoffer og materialer
IATA	International Air Transport Association (den internationale organisation for luftfart)
IATA/DGR	Forordning om transport af farligt gods (DGR) via lufttransport (IATA)
ICAO	International Civil Aviation Organization (den internationale organisation for civil luftfart)

Fork.	Forklaring af anvendte forkortelser
ICAO-TI	Tekniske instrukser for sikker lufttransport af farligt gods
IMDG	International Maritime Dangerous Goods Code (den internationale kode for søtransport af farligt gods)
IMDG-Code	International Maritime Dangerous Goods Code
KTV	Korttidsværdi
loftværdi	Loftværdi
log KOW	n-Oktanol/vand
NLP	No-Longer Polymer
PBT	Persistent, Bioakkumulerende og Toksisk
PNEC	Predicted No-Effect Concentration (beregnet nuleffektkoncentration)
ppm	Parts per million (dele pr. million)
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals (registrering, vurdering og godkendelse af samt begrænsninger for kemikalier)
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (forordning om international transport af farligt gods ad jernbane)
SVHC	Substance of Very High Concern (særligt problematisk stof)
TWA	Tidsvægtet gennemsnit
vPvB	Very Persistent and very Bioaccumulative (meget persistent og meget bioakkumulativ)

Henvisninger til den vigtigste faglitteratur og de vigtigste datakilder

Forordning (EF) nr. 1272/2008 om klassificering, mærkning og emballering af stoffer og blandinger. Forordning (EF) nr. 1907/2006 (REACH), ændret ved 2020/878/EU.

Den konvention om international transport af farligt gods ad vej (ADR). Reglement for international befordring af farligt gods med jernbane (RID). International Maritime Dangerous Goods Code (IMDG-koden). Forordning om transport af farligt gods (DGR) via lufttransport (IATA).

Fortegnelse over de vigtigste sætninger (kode og fuldstændig ordlyd som beskrevet i punkt 2 og 3)

Kode	Tekst
H226	Brandfarlig væske og damp.
H304	Kan være livsfarligt, hvis det indtages og kommer i luftvejene.
H315	Forårsager hudirritation.
H317	Kan forårsage allergisk hudreaktion.
H361	Mistænkt for at skade forplantningsevnen eller det ufødte barn.
H411	Giftig for vandlevende organismer, med langvarige virkninger.

Ansvarsfraskrivelse

Disse oplysninger er baseret på vores nuværende viden. Dette SDS er udarbejdet for og gælder udelukkende for dette produkt.

APPENDIX: EXPOSURE SCENARIOS

Table of contents

ES 1: Manufacture; Manufacture

1.1. Title section

Environment	
CS 1: Manufacture	ERC 1
Worker	
CS 2: General process - Use in continuous closed process	PROC 1
CS 3: General process - used in continuous closed process with occasional exposure - including sampling and waste management	PROC 2
CS 4: General process - use in closed batch process (including sampling and waste management)	PROC 3
CS 5: General process - batch process (including sampling and waste management)	PROC 4
CS 6: Transferts	PROC 8b
CS 7: Cleaning and maintenance	PROC 8b
CS 8: QC lab	PROC 15

1.2. Conditions of use affecting exposure

1.2.1. Control of environmental exposure: Manufacture (ERC 1)

Amount used, frequency and duration of use (or from service life)
Daily amount per site <= 0.1 tonnes/day
Annual amount per site <= 25.0 tonnes/year
Emission days : >= 250 (days/year)
Conditions and measures related to sewage treatment plant
Estimated substance removal from wastewater via domestic sewage treatment 88.4 %
Assumed domestic sewage treatment plant flow >= 10000 m3/d

No application of sewage sludge to soil
Conditions and measures related to treatment of waste (including article waste)
Dispose of waste or used sacks/containers according to local regulations.
Other conditions affecting environmental exposure
Receiving surface water flow >= 400000 m3/d

1.2.2. Control of worker exposure: General process - Use in continuous closed process (PROC 1)

Product (article) characteristics
Covers percentage substance in the product up to 100 %.
Amount used (or contained in articles), frequency and duration of use/exposure
Covers daily exposures up to 8 hours.
Technical and organisational conditions and measures
Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour) .
Use in closed process, no likelihood of exposure
Advanced (industrial) exposure controls assumed.
Conditions and measures related to personal protection, hygiene and health evaluation
Wear chemically safety goggles (tested to EN166) in combination with 'basic' employee training.; For further specification, refer to section 8 of the SDS.
Other conditions affecting workers exposure
Indoor use
Assumes process temperature up to 130.0 °C

1.2.3. Control of worker exposure: General process - used in continuous closed process with occasional exposure - including sampling and waste management (PROC 2)

Product (article) characteristics
Covers percentage substance in the product up to 100 %.

Amount used (or contained in articles), frequency and duration of use/exposure
Avoid carrying out activities involving exposure for more than 15 minutes.
Technical and organisational conditions and measures
Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour) .
Use in closed, continuous process with occasional controlled exposure
Advanced (industrial) exposure controls assumed.
Conditions and measures related to personal protection, hygiene and health evaluation
Wear chemically safety goggles (tested to EN166) in combination with 'basic' employee training.; For further specification, refer to section 8 of the SDS
Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.; For further specification, refer to section 8 of the SDS.
Other conditions affecting workers exposure
Indoor use
Assumes process temperature up to 80.0 °C

1.2.4. Control of worker exposure: General process - use in closed batch process (including sampling and waste management) (PROC 3)

Product (article) characteristics
Covers percentage substance in the product up to 100 %.
Amount used (or contained in articles), frequency and duration of use/exposure
Avoid carrying out activities involving exposure for more than 15 minutes.
Technical and organisational conditions and measures
Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour) .
Use in closed batch process (synthesis or formulation)
Advanced (industrial) exposure controls assumed.
Conditions and measures related to personal protection, hygiene and health evaluation

Wear chemically safety goggles (tested to EN166) in combination with 'basic' employee training.; For further specification, refer to section 8 of the SDS
Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.; For further specification, refer to section 8 of the SDS.
Other conditions affecting workers exposure
Indoor use
Assumes process temperature up to 80.0 °C

1.2.5. Control of worker exposure: General process - batch process (including sampling and waste management) (PROC 4)

Product (article) characteristics
Covers percentage substance in the product up to 100 %.
Amount used (or contained in articles), frequency and duration of use/exposure
Avoid carrying out activities involving exposure for more than 1 hour.
Technical and organisational conditions and measures
Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour) .
Use in semi-closed process with opportunity for exposure
Local exhaust ventilation - efficiency of at least 90.0 %
Advanced (industrial) exposure controls assumed.
Conditions and measures related to personal protection, hygiene and health evaluation
Wear chemically safety goggles (tested to EN166) in combination with 'basic' employee training.; For further specification, refer to section 8 of the SDS
Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.; For further specification, refer to section 8 of the SDS.
Other conditions affecting workers exposure
Indoor use
Assumes process temperature up to 80.0 °C

1.2.6. Control of worker exposure: Transferts (PROC 8b)

Product (article) characteristics
Covers percentage substance in the product up to 100 %.
Amount used (or contained in articles), frequency and duration of use/exposure
Avoid carrying out activities involving exposure for more than 1 hour.
Technical and organisational conditions and measures
Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour) .
Use in semi-closed process with opportunity for exposure
Local exhaust ventilation - efficiency of at least 95.0 %
Advanced (industrial) exposure controls assumed.
Conditions and measures related to personal protection, hygiene and health evaluation
Wear chemically safety goggles (tested to EN166) in combination with 'basic' employee training.; For further specification, refer to section 8 of the SDS
Wear chemically resistant gloves (tested to EN374) in combination with specific activity training.; For further specification, refer to section 8 of the SDS.
Other conditions affecting workers exposure
Indoor use
Assumes process temperature up to 40.0 °C

1.2.7. Control of worker exposure: Cleaning and maintenance (PROC 8b)

Product (article) characteristics
Limit the substance content in the product to 5 %.
Amount used (or contained in articles), frequency and duration of use/exposure
Avoid carrying out activities involving exposure for more than 1 hour.
Technical and organisational conditions and measures
Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour) .

Use in semi-closed process with opportunity for exposure
Advanced (industrial) exposure controls assumed.
Conditions and measures related to personal protection, hygiene and health evaluation
Wear chemically safety goggles (tested to EN166) in combination with 'basic' employee training.; For further specification, refer to section 8 of the SDS
Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.; For further specification, refer to section 8 of the SDS.
Other conditions affecting workers exposure
Indoor use
Assumes process temperature up to 40.0 °C

1.2.8. Control of worker exposure: QC lab (PROC 15)

Product (article) characteristics
Covers percentage substance in the product up to 100 %.
Amount used (or contained in articles), frequency and duration of use/exposure
Avoid carrying out activities involving exposure for more than 15 minutes.
Technical and organisational conditions and measures
Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour) .
Advanced (industrial) exposure controls assumed.
Conditions and measures related to personal protection, hygiene and health evaluation
Wear chemically safety goggles (tested to EN166) in combination with 'basic' employee training.; For further specification, refer to section 8 of the SDS
Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.; For further specification, refer to section 8 of the SDS.
Other conditions affecting workers exposure
Indoor use

Assumes process temperature up to 40.0 °C

1.3. Exposure estimation and reference to its source

1.3.1. Environmental release and exposure: Manufacture (ERC 1)

Release route	Release rate	Release estimation method
Water	6 kg/day	ERC based
Air	5 kg/day	ERC based
Soil	0.01 kg/day	ERC based

Protection target	Exposure estimate (based on: EUSES 2.1.2)	RCR
Freshwater	0.002 mg/L	0.887
Sediment (freshwater)	0.054 mg/kg dw	0.081
Marine water	7.071E-4 mg/L	Not applicable*
Sediment (marine water)	0.021 mg/kg dw	0.318
Predator (freshwater)	0.59 mg/kg ww	0.029
Predator (marine water)	0.212 mg/kg ww	0.011
Top predator (marine water)	0.049 mg/kg ww	< 0.01
Sewage treatment plant	0.07 mg/L	< 0.01
Agricultural soil	1.781E-4 mg/kg dw	< 0.01
Predator (terrestrial)	1.645E-4 mg/kg ww	< 0.01
Man via environment - Inhalation	9.594E-4 mg/m³	< 0.01
Man via environment - Oral	0.002 mg/kg bw/day	< 0.01

*The manufacturing site is not assumed to be located on costal area. Therefore the Marine water RCR can be disregarded.

1.3.2. Worker exposure: General process - Use in continuous closed process (PROC 1)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, systemic, long-term	0.045 mg/m³ (TRA Workers 3.0)	0.013
Dermal, systemic, long-term	0.034 mg/kg bw/day (TRA Workers 3.0)	0.034
Combined routes, systemic, long-term		0.047

1.3.3. Worker exposure: General process - used in continuous closed process with occasional exposure - including sampling and waste management (PROC 2)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, systemic, long-term	0.45 mg/m³ (TRA Workers 3.0)	0.128
Dermal, systemic, long-term	0.137 mg/kg bw/day (TRA Workers 3.0)	0.137
Combined routes, systemic, long-term		0.265

1.3.4. Worker exposure: General process - use in closed batch process (including sampling and waste management) (PROC 3)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, systemic, long-term	1.35 mg/m³ (TRA Workers 3.0)	0.383
Dermal, systemic, long-term	0.069 mg/kg bw/day (TRA Workers 3.0)	0.069
Combined routes, systemic, long-term		0.452

1.3.5. Worker exposure: General process - batch process (including sampling and waste management) (PROC 4)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, systemic, long-term	0.45 mg/m³ (TRA Workers 3.0)	0.128
Dermal, systemic, long-term	0.686 mg/kg bw/day (TRA Workers 3.0)	0.686
Combined routes, systemic, long-term		0.814

1.3.6. Worker exposure: Transferts (PROC 8b)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, systemic, long-term	0.225 mg/m³ (TRA Workers 3.0)	0.064

Route of exposure and type of effects	Exposure estimate	RCR
Dermal, systemic, long-term	0.686 mg/kg bw/day (TRA Workers 3.0)	0.686
Combined routes, systemic, long-term		0.749

1.3.7. Worker exposure: Cleaning and maintenance (PROC 8b)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, systemic, long-term	0.9 mg/m³ (TRA Workers 3.0)	0.256
Dermal, systemic, long-term	0.274 mg/kg bw/day (TRA Workers 3.0)	0.274
Combined routes, systemic, long-term		0.53

1.3.8. Worker exposure: QC lab (PROC 15)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, systemic, long-term	2.249 mg/m³ (TRA Workers 3.0)	0.639
Dermal, systemic, long-term	0.034 mg/kg bw/day (TRA Workers 3.0)	0.034
Combined routes, systemic, long-term		0.673

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

Scaling method
The workers exposure and environmental emissions have been evaluated using TRA Workers 3.0 and EUSES 2.1.2, respectively.
Health
Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures / Operational Conditions outlined in Section 2 are implemented. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.
Environment
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.

2. ES 2: Formulation; GES1 - Formulation of fragrance compounds

2.1. Title section

Environment	
CS 1: Formulation of fragrance compounds (large/medium sites)	ERC 2
CS 2: Formulation of fragrance compounds (small sites)	ERC 2
Worker	
CS 3: CS2 - Storage (IFRA F-2)	PROC 1
CS 4: CS3 - Mixing operations (closed systems) in batch process including filling of equipment and sample collection (IFRA F-3)	PROC 3
CS 5: CS4 - Mixing operations (open systems) in batch process including filling of equipment and sample collection (IFRA F-4)	PROC 5
CS 6: CS7 - Equipment cleaning and maintenance (IFRA F-7)	PROC 8a
CS 7: CS1 - Material transfers from/to vessel/container at dedicated facility (IFRA F-1).	PROC 8b
CS 8: CS6 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing) (IFRA F-6)	PROC 9
CS 9: CS5 - QC laboratory (IFRA F-5)	PROC 15

2.2. Conditions of use affecting exposure

2.2.1. Control of environmental exposure: Formulation of fragrance compounds (large/medium sites) (ERC 2)

Amount used, frequency and duration of use (or from service life)
Daily amount per site <= 0.16 tonnes/day
Annual amount per site <= 39.0 tonnes/year
Emission days : >= 250 (days/year)
Conditions and measures related to sewage treatment plant

Estimated substance removal from wastewater via domestic sewage treatment 88.4 %
Assumed domestic sewage treatment plant flow >= 2000 m3/d
Conditions and measures related to treatment of waste (including article waste)
Dispose of waste or used sacks/containers according to local regulations.
Other conditions affecting environmental exposure
Receiving surface water flow >= 18000 m3/d

2.2.2. Control of environmental exposure: Formulation of fragrance compounds (small sites) (ERC 2)

Amount used, frequency and duration of use (or from service life)
Daily amount per site <= 0.064 tonnes/day
Annual amount per site <= 16.0 tonnes/year
Emission days : >= 250 (days/year)
Conditions and measures related to sewage treatment plant
Estimated substance removal from wastewater via domestic sewage treatment 88.4 %
Assumed domestic sewage treatment plant flow >= 2000 m3/d
Conditions and measures related to treatment of waste (including article waste)
Dispose of waste or used sacks/containers according to local regulations.
Other conditions affecting environmental exposure
Receiving surface water flow >= 18000 m3/d

2.2.3. Control of worker exposure: CS2 - Storage (IFRA F-2) (PROC 1)

Product (article) characteristics
Covers percentage substance in the product up to 100 %.
Amount used (or contained in articles), frequency and duration of use/exposure
Avoid carrying out activities involving exposure for more than 1 hour.

Technical and organisational conditions and measures
Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour) .
Use in closed process, no likelihood of exposure
Advanced (industrial) exposure controls assumed.
Other conditions affecting workers exposure
Indoor use
Assumes process temperature up to 40.0 °C

2.2.4. Control of worker exposure: CS3 - Mixing operations (closed systems) in batch process including filling of equipment and sample collection (IFRA F-3) (PROC 3)

Product (article) characteristics
Covers percentage substance in the product up to 100 %.
Amount used (or contained in articles), frequency and duration of use/exposure
Avoid carrying out activities involving exposure for more than 15 minutes.
Technical and organisational conditions and measures
Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour) .
Use in closed batch process (synthesis or formulation)
Advanced (industrial) exposure controls assumed.
Conditions and measures related to personal protection, hygiene and health evaluation
Wear chemically safety goggles (tested to EN166) in combination with 'basic' employee training.; For further specification, refer to section 8 of the SDS.
Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.; For further specification, refer to section 8 of the SDS.
Other conditions affecting workers exposure
Indoor use
Assumes process temperature up to 40.0 °C

2.2.5. Control of worker exposure: CS4 - Mixing operations (open systems) in batch process including filling of equipment and sample collection (IFRA F-4) (PROC 5)

Product (article) characteristics
Limit the substance content in the product to 25 % .
Amount used (or contained in articles), frequency and duration of use/exposure
Avoid carrying out activities involving exposure for more than 1 hour.
Technical and organisational conditions and measures
Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour) .
Local exhaust ventilation - efficiency of at least 90.0 %
Advanced (industrial) exposure controls assumed.
Conditions and measures related to personal protection, hygiene and health evaluation
Wear chemically safety goggles (tested to EN166) in combination with 'basic' employee training.; For further specification, refer to section 8 of the SDS.
Wear chemically resistant gloves (tested to EN374) in combination with specific activity training.; For further specification, refer to section 8 of the SDS.
Other conditions affecting workers exposure
Indoor use
Assumes process temperature up to 40.0 °C

2.2.6. Control of worker exposure: CS7 - Equipment cleaning and maintenance (IFRA F-7) (PROC 8a)

Product (article) characteristics
Limit the substance content in the product to 5 %.
Amount used (or contained in articles), frequency and duration of use/exposure
Avoid carrying out activities involving exposure for more than 1 hour.
Technical and organisational conditions and measures
Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour) .

Advanced (industrial) exposure controls assumed.
Conditions and measures related to personal protection, hygiene and health evaluation
Wear chemically safety goggles (tested to EN166) in combination with 'basic' employee training.; For further specification, refer to section 8 of the SDS.
Wear chemically resistant gloves (tested to EN374) in combination with specific activity training.; For further specification, refer to section 8 of the SDS.
Wear a respirator providing a minimum efficiency of 90.0 %; For further specification, refer to section 8 of the SDS.
Other conditions affecting workers exposure
Indoor use
Assumes process temperature up to 40.0 °C

2.2.7. Control of worker exposure: CS1 - Material transfers from/to vessel/container at dedicated facility (IFRA F-1). (PROC 8b)

Product (article) characteristics
Limit the substance content in the product to 25 % .
Amount used (or contained in articles), frequency and duration of use/exposure
Avoid carrying out activities involving exposure for more than 1 hour.
Technical and organisational conditions and measures
Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour) .
Use in semi-closed process with opportunity for exposure
Local exhaust ventilation - efficiency of at least 95.0 %
Advanced (industrial) exposure controls assumed.
Conditions and measures related to personal protection, hygiene and health evaluation
Wear chemically safety goggles (tested to EN166) in combination with 'basic' employee training.; For further specification, refer to section 8 of the SDS.

Wear chemically resistant gloves (tested to EN374) in combination with specific activity training.; For further specification, refer to section 8 of the SDS.
Other conditions affecting workers exposure
Indoor use
Assumes process temperature up to 40.0 °C

2.2.8. Control of worker exposure: CS6 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing) (IFRA F-6) (PROC 9)

Product (article) characteristics
Limit the substance content in the product to 25 % .
Amount used (or contained in articles), frequency and duration of use/exposure
Avoid carrying out activities involving exposure for more than 1 hour.
Technical and organisational conditions and measures
Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour) .
Use in semi-closed process with opportunity for exposure
Local exhaust ventilation - efficiency of at least 90.0 %
Advanced (industrial) exposure controls assumed.
Conditions and measures related to personal protection, hygiene and health evaluation
Wear chemically safety goggles (tested to EN166) in combination with 'basic' employee training.; For further specification, refer to section 8 of the SDS.
Wear chemically resistant gloves (tested to EN374) in combination with specific activity training.; For further specification, refer to section 8 of the SDS.
Other conditions affecting workers exposure
Indoor use
Assumes process temperature up to 40.0 °C

2.2.9. Control of worker exposure: CS5 - QC laboratory (IFRA F-5) (PROC 15)

Product (article) characteristics
Covers percentage substance in the product up to 100 %.
Amount used (or contained in articles), frequency and duration of use/exposure
Avoid carrying out activities involving exposure for more than 15 minutes.
Technical and organisational conditions and measures
Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour) .
Local exhaust ventilation - efficiency of at least 90.0 %
Advanced (industrial) exposure controls assumed.
Conditions and measures related to personal protection, hygiene and health evaluation
Wear chemically safety goggles (tested to EN166) in combination with 'basic' employee training.; For further specification, refer to section 8 of the SDS.
Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.; For further specification, refer to section 8 of the SDS.
Other conditions affecting workers exposure
Indoor use
Assumes process temperature up to 40.0 °C

2.3. Exposure estimation and reference to its source

2.3.1. Environmental release and exposure: Formulation of fragrance compounds (large/medium sites) (ERC 2)

Release route	Release rate	Release estimation method
Water	0.312 kg/day	SpERC based IFRA 2.1a.v1 - IFRA 2.1a.v1 IFRA - Formulation of fragrance compounds at large/medium sites - IFRA - Formulation of fragrance compounds at large/medium sites
Air	3.9 kg/day	SpERC based

Release route	Release rate	Release estimation method
		same as above
Soil	0 kg/day	SpERC based same as above

Protection target	Exposure estimate (based on: EUSES 2.1.2)	RCR
Freshwater	0.002 mg/L	0.942
Sediment (freshwater)	0.057 mg/kg dw	0.086
Marine water	1.908E-4 mg/L	0.935
Sediment (marine water)	0.006 mg/kg dw	0.086
Predator (freshwater)	0.622 mg/kg ww	0.031
Predator (marine water)	0.061 mg/kg ww	< 0.01
Top predator (marine water)	0.019 mg/kg ww	< 0.01
Sewage treatment plant	0.018 mg/L	< 0.01
Agricultural soil	0.011 mg/kg dw	0.08
Predator (terrestrial)	0.003 mg/kg ww	< 0.01
Man via environment – Inhalation	7.5E-4 mg/m³	< 0.01
Man via environment – Oral	0.002 mg/kg bw/day	< 0.01

2.3.2. Environmental release and exposure: Formulation of fragrance compounds (small sites) (ERC 2)

Release route	Release rate	Release estimation method
Water	0.32 kg/day	SpERC based IFRA 2.1b.v1 - IFRA 2.1b.v1

Release route	Release rate	Release estimation method
		IFRA - Formulation of fragrance compounds at small sites - IFRA - Formulation of fragrance compounds at small sites
Air	1.6 kg/day	SpERC based same as above
Soil	0 kg/day	SpERC based same as above

Protection target	Exposure estimate (based on: EUSES 2.1.2)	RCR
Freshwater	0.002 mg/L	0.965
Sediment (freshwater)	0.058 mg/kg dw	0.088
Marine water	1.955E-4 mg/L	0.958
Sediment (marine water)	0.006 mg/kg dw	0.088
Predator (freshwater)	0.636 mg/kg ww	0.032
Predator (marine water)	0.062 mg/kg ww	< 0.01
Top predator (marine water)	0.019 mg/kg ww	< 0.01
Sewage treatment plant	0.019 mg/L	< 0.01
Agricultural soil	0.011 mg/kg dw	0.082
Predator (terrestrial)	0.003 mg/kg ww	< 0.01
Man via environment - Inhalation	3.12E-4 mg/m³	< 0.01
Man via environment - Oral	0.002 mg/kg bw/day	< 0.01

2.3.3. Worker exposure: CS2 - Storage (IFRA F-2) (PROC 1)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, systemic, long-term	0.009 mg/m³ (TRA Workers 3.0)	< 0.01
Dermal, systemic, long-term	0.034 mg/kg bw/day (TRA Workers 3.0)	0.034
Combined routes, systemic, long-term		0.037

2.3.4. Worker exposure: CS3 - Mixing operations (closed systems) in batch process including filling of equipment and sample collection (IFRA F-3) (PROC 3)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, systemic, long-term	1.35 mg/m³ (TRA Workers 3.0)	0.383
Dermal, systemic, long-term	0.069 mg/kg bw/day (TRA Workers 3.0)	0.069
Combined routes, systemic, long-term		0.452

2.3.5. Worker exposure: CS4 - Mixing operations (open systems) in batch process including filling of equipment and sample collection (IFRA F-4) (PROC 5)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, systemic, long-term	0.27 mg/m³ (TRA Workers 3.0)	0.077
Dermal, systemic, long-term	0.411 mg/kg bw/day (TRA Workers 3.0)	0.411
Combined routes, systemic, long-term		0.488

2.3.6. Worker exposure: CS7 - Equipment cleaning and maintenance (IFRA F-7) (PROC 8a)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, systemic, long-term	0.18 mg/m³ (TRA Workers 3.0)	0.051
Dermal, systemic, long-term	0.137 mg/kg bw/day (TRA Workers 3.0)	0.137
Combined routes, systemic, long-term		0.188

2.3.7. Worker exposure: CS1 - Material transfers from/to vessel/container at dedicated facility (IFRA F-1). (PROC 8b)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, systemic, long-term	0.135 mg/m³ (TRA Workers 3.0)	0.038

Route of exposure and type of effects	Exposure estimate	RCR
Dermal, systemic, long-term	0.411 mg/kg bw/day (TRA Workers 3.0)	0.411
Combined routes, systemic, long-term		0.45

2.3.8. Worker exposure: CS6 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing) (IFRA F-6) (PROC 9)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, systemic, long-term	0.27 mg/m³ (TRA Workers 3.0)	0.077
Dermal, systemic, long-term	0.206 mg/kg bw/day (TRA Workers 3.0)	0.206
Combined routes, systemic, long-term		0.283

2.3.9. Worker exposure: CS5 - QC laboratory (IFRA F-5) (PROC 15)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, systemic, long-term	0.225 mg/m³ (TRA Workers 3.0)	0.064
Dermal, systemic, long-term	0.034 mg/kg bw/day (TRA Workers 3.0)	0.034
Combined routes, systemic, long-term		0.098

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

Scaling method
The workers exposure and environmental emissions have been evaluated using TRA Workers 3.0 and EUSES 2.1.2, respectively.
Health
Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures / Operational Conditions outlined in Section 2 are implemented. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.
Environment
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.

Eucalyptus globulus, ext.,

3. ES 3: Formulation; GES2 - Formulation of fragrance end-products

3.1. Title section

Environment	
CS 1: Formulation of Household Care/Air Freshners products (medium scale)	ERC 2
CS 2: Formulation of Fine Fragrance products (small scale)	ERC 2
CS 3: Formulation of Fine Fragrance products (cleaning with organic solvents)	ERC 2
CS 4: Formulation of Body Care products (medium scale)	ERC 2
Worker	
CS 5: CS2 - Storage (IFRA F-2)	PROC 1
CS 6: CS3 - Mixing operations (closed systems) in batch process including filling of equipment and sample collection (IFRA F-3)	PROC 3
CS 7: CS4 - Mixing operations (open systems) in batch process including filling of equipment and sample collection (IFRA F-4)	PROC 5
CS 8: CS7 - Equipment cleaning and maintenance (IFRA F-7)	PROC 8a
CS 9: CS1 - Material transfers from/to vessel/container at dedicated facility (IFRA F-1).	PROC 8b
CS 10: CS6 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing) (IFRA F-6)	PROC 9
CS 11: CS8 - Production of preparations or articles by tabletting, compression, extrusion, pelletisation (AISE M-8)	PROC 14
CS 12: CS5 - QC laboratory (IFRA F-5)	PROC 15

3.2. Conditions of use affecting exposure

3.2.1. Control of environmental exposure: Formulation of Household Care/Air Freshners products (medium scale) (ERC 2)

Amount used, frequency and duration of use (or from service life)
Daily amount per site <= 0.08 tonnes/day

Annual amount per site <= 20.0 tonnes/year
Technical and organisational conditions and measures
Type of process: Substance applied in aqueous process solution with negligible volatilization
Indoor use
Equipment cleaning with reduced emissions to wastewater
Process efficiency: Process optimized for efficient use of raw materials.
Conditions and measures related to sewage treatment plant
Estimated substance removal from wastewater via domestic sewage treatment 88.4 %
Assumed domestic sewage treatment plant flow >= 2000 m3/d
Conditions and measures related to treatment of waste (including article waste)
Dispose of waste or used sacks/containers according to local regulations.
Other conditions affecting environmental exposure
Receiving surface water flow >= 18000 m3/d
General good practice: Trained staff, spill protection including waste reuse

3.2.2. Control of environmental exposure: Formulation of Fine Fragrance products (small scale) (ERC 2)

Amount used, frequency and duration of use (or from service life)
Daily amount per site <= 0.018 tonnes/day
Annual amount per site <= 4.5 tonnes/year
Emission days : >= 250 (days/year)
Technical and organisational conditions and measures
Type of Process: Substance applied in aqueous process solution with negligible volatilization
Equipment cleaning with reduced emissions to wastewater
Indoor use

Process optimized for efficient use of raw materials.
Conditions and measures related to sewage treatment plant
Estimated substance removal from wastewater via domestic sewage treatment 88.4%
Assumed domestic sewage treatment plant flow >= 2000 m3/d
Conditions and measures related to treatment of waste (including article waste)
Dispose of waste or used sacks/containers according to local regulations.
Other conditions affecting environmental exposure
Receiving surface water flow >= 18000 m3/d

3.2.3. Control of environmental exposure: Formulation of Fine Fragrance products (cleaning with organic solvents) (ERC 2)

Amount used, frequency and duration of use (or from service life)
Daily amount per site <= 0.046 tonnes/day
Annual amount per site <= 11.5 tonnes/year
Emission days : >= 250 (days/year)
Technical and organisational conditions and measures
Type of Process: Solvent based process
Indoor use
Equipment cleaning: Equipment cleaned with organic solvent, washings are collected and disposed of as solvent waste.
Process with efficient use of raw materials.
Conditions and measures related to sewage treatment plant
Estimated substance removal from wastewater via domestic sewage treatment 100.0 %
Assumed domestic sewage treatment plant flow >= 2000 m3/d
Conditions and measures related to treatment of waste (including article waste)

Dispose of waste or used sacks/containers according to local regulations.
Other conditions affecting environmental exposure
Receiving surface water flow >= 18000 m3/d

3.2.4. Control of environmental exposure: Formulation of Body Care products (medium scale) (ERC 2)

Amount used, frequency and duration of use (or from service life)
Daily amount per site <= 0.076 tonnes/day
Annual amount per site <= 19.0 tonnes/year
Emission days : >= 250 (days/year)
Technical and organisational conditions and measures
Type of Process: Substance applied in aqueous process solution with negligible volatilization
Equipment cleaning with reduced emissions to wastewater
Indoor use
Process optimized for efficient use of raw materials.
Oil water separator
Conditions and measures related to sewage treatment plant
Estimated substance removal from wastewater via domestic sewage treatment 88.4 %
Assumed domestic sewage treatment plant flow >= 10000 m3/d
No application of sewage sludge to soil
Conditions and measures related to treatment of waste (including article waste)
Dispose of waste or used sacks/containers according to local regulations.
Other conditions affecting environmental exposure
Receiving surface water flow >= 400000 m3/d

3.2.5. Control of worker exposure: CS2 - Storage (IFRA F-2) (PROC 1)

Product (article) characteristics
Limit the substance content in the product to 25 % .
Amount used (or contained in articles), frequency and duration of use/exposure
Avoid carrying out activities involving exposure for more than 1 hour.
Technical and organisational conditions and measures
Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour) .
Use in closed process, no likelihood of exposure
Advanced (industrial) exposure controls assumed.
Other conditions affecting workers exposure
Indoor use
Assumes process temperature up to 40.0 °C

3.2.6. Control of worker exposure: CS3 - Mixing operations (closed systems) in batch process including filling of equipment and sample collection (IFRA F-3) (PROC 3)

Product (article) characteristics
Limit the substance content in the product to 25 % .
Amount used (or contained in articles), frequency and duration of use/exposure
Avoid carrying out activities involving exposure for more than 15 minutes.
Technical and organisational conditions and measures
Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour) .
Use in closed batch process (synthesis or formulation)
Advanced (industrial) exposure controls assumed.
Conditions and measures related to personal protection, hygiene and health evaluation
Wear chemically safety goggles (tested to EN166) in combination with 'basic' employee training.; For further specification, refer to section 8 of the SDS.

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.; For further specification, refer to section 8 of the SDS.
Other conditions affecting workers exposure
Indoor use
Assumes process temperature up to 40.0 °C

3.2.7. Control of worker exposure: CS4 - Mixing operations (open systems) in batch process including filling of equipment and sample collection (IFRA F-4) (PROC 5)

Product (article) characteristics
Limit the substance content in the product to 25 % .
Amount used (or contained in articles), frequency and duration of use/exposure
Avoid carrying out activities involving exposure for more than 1 hour.
Technical and organisational conditions and measures
Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour) .
Local exhaust ventilation - efficiency of at least 90.0 %
Advanced (industrial) exposure controls assumed.
Conditions and measures related to personal protection, hygiene and health evaluation
Wear chemically safety goggles (tested to EN166) in combination with 'basic' employee training.; For further specification, refer to section 8 of the SDS.
Wear chemically resistant gloves (tested to EN374) in combination with specific activity training.; For further specification, refer to section 8 of the SDS.
Other conditions affecting workers exposure
Indoor use
Assumes process temperature up to 40.0 °C

3.2.8. Control of worker exposure: CS7 - Equipment cleaning and maintenance (IFRA F-7) (PROC 8a)

Product (article) characteristics

Limit the substance content in the product to 1 % .
Amount used (or contained in articles), frequency and duration of use/exposure
Avoid carrying out activities involving exposure for more than 1 hour.
Technical and organisational conditions and measures
Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour) .
Advanced (industrial) exposure controls assumed.
Conditions and measures related to personal protection, hygiene and health evaluation
Wear chemically safety goggles (tested to EN166) in combination with 'basic' employee training.; For further specification, refer to section 8 of the SDS.
Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.; For further specification, refer to section 8 of the SDS.
Other conditions affecting workers exposure
Indoor use
Assumes process temperature up to 40.0 °C

3.2.9. Control of worker exposure: CS1 - Material transfers from/to vessel/container at dedicated facility (IFRA F-1). (PROC 8b)

Product (article) characteristics
Limit the substance content in the product to 25 % .
Amount used (or contained in articles), frequency and duration of use/exposure
Avoid carrying out activities involving exposure for more than 1 hour.
Technical and organisational conditions and measures
Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour) .
Use in semi-closed process with opportunity for exposure
Local exhaust ventilation - efficiency of at least 95.0 %
Advanced (industrial) exposure controls assumed.

Conditions and measures related to personal protection, hygiene and health evaluation
Wear chemically safety goggles (tested to EN166) in combination with 'basic' employee training.; For further specification, refer to section 8 of the SDS.
Wear chemically resistant gloves (tested to EN374) in combination with specific activity training.; For further specification, refer to section 8 of the SDS.
Other conditions affecting workers exposure
Indoor use
Assumes process temperature up to 40.0 °C

3.2.10. Control of worker exposure: CS6 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing) (IFRA F-6) (PROC 9)

Product (article) characteristics
Limit the substance content in the product to 1 % .
Amount used (or contained in articles), frequency and duration of use/exposure
Avoid carrying out activities involving exposure for more than 1 hour.
Technical and organisational conditions and measures
Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour) .
Use in semi-closed process with opportunity for exposure
Advanced (industrial) exposure controls assumed.
Conditions and measures related to personal protection, hygiene and health evaluation
Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.; For further specification, refer to section 8 of the SDS.
Other conditions affecting workers exposure
Indoor use
Assumes process temperature up to 40.0 °C

3.2.11. Control of worker exposure: CS8 - Production of preparations or articles by tabletting, compression, extrusion, pelletisation (AISE M-8) (PROC 14)

Product (article) characteristics
Limit the substance content in the product to 1 % .
Amount used (or contained in articles), frequency and duration of use/exposure
Avoid carrying out activities involving exposure for more than 4 hours.
Technical and organisational conditions and measures
Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour) .
Local exhaust ventilation - efficiency of at least 80.0 %
Basic (professional) exposure controls assumed.
Conditions and measures related to personal protection, hygiene and health evaluation
Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.; For further specification, refer to section 8 of the SDS.
Other conditions affecting workers exposure
Indoor use
Assumes process temperature up to 40.0 °C

3.2.12. Control of worker exposure: CS5 - QC laboratory (IFRA F-5) (PROC 15)

Product (article) characteristics
Limit the substance content in the product to 25 % .
Amount used (or contained in articles), frequency and duration of use/exposure
Avoid carrying out activities involving exposure for more than 15 minutes.
Technical and organisational conditions and measures
Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour) .
Advanced (industrial) exposure controls assumed.
Conditions and measures related to personal protection, hygiene and health evaluation

Wear chemically safety goggles (tested to EN166) in combination with 'basic' employee training.; For further specification, refer to section 8 of the SDS.
Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.; For further specification, refer to section 8 of the SDS.
Other conditions affecting workers exposure
Indoor use
Assumes process temperature up to 40.0 °C

3.3. Exposure estimation and reference to its source

3.3.1. Environmental release and exposure: Formulation of Household Care/Air Freshners products (medium scale) (ERC 2)

Release route	Release rate	Release estimation method
Water	0.16 kg/day	SpERC based AISE 2.1k.v2 - AISE 2.1k.v2 Industrial use in formulation of liquid cleaning and maintenance products: High Viscosity (medium scale) - Formulation of liquid Detergents/ Maintenance Products: High Viscosity (medium scale)
Air	0 kg/day	SpERC based same as above
Soil	0 kg/day	SpERC based same as above

Protection target	Exposure estimate (based on: EUSES 2.1.2)	RCR
Freshwater	0.001 mg/L	0.509
Sediment (freshwater)	0.031 mg/kg dw	0.046
Marine water	1.024E-4 mg/L	0.502
Sediment (marine water)	0.003 mg/kg dw	0.046

Protection target	Exposure estimate (based on: EUSES 2.1.2)	RCR
Predator (freshwater)	0.364 mg/kg ww	0.018
Predator (marine water)	0.035 mg/kg ww	< 0.01
Top predator (marine water)	0.013 mg/kg ww	< 0.01
Sewage treatment plant	0.009 mg/L	< 0.01
Agricultural soil	0.005 mg/kg dw	0.041
Predator (terrestrial)	0.001 mg/kg ww	< 0.01
Man via environment - Inhalation	8.093E-6 mg/m³	< 0.01
Man via environment - Oral	0.001 mg/kg bw/day	< 0.01

3.3.2. Environmental release and exposure: Formulation of Fine Fragrance products (small scale) (ERC 2)

Release route	Release rate	Release estimation method
Water	0.27 kg/day	SpERC based Cosmetics Europe 2.1d.v2 - Cosmetics Europe 2.1d.v2 Industrial use in formulation of liquid water-borne cosmetic products - fine fragrances - cleaning with water (medium scale) - Formulation of fine fragrances - cleaning with water (medium scale)
Air	0 kg/day	SpERC based same as above
Soil	0 kg/day	SpERC based same as above

Protection target	Exposure estimate (based on: EUSES 2.1.2)	RCR
Freshwater	0.002 mg/L	0.823
Sediment (freshwater)	0.05 mg/kg dw	0.075
Marine water	1.664E-4 mg/L	0.816
Sediment (marine water)	0.005 mg/kg dw	0.075
Predator (freshwater)	0.551 mg/kg ww	0.028
Predator (marine water)	0.054 mg/kg ww	< 0.01
Top predator (marine water)	0.017 mg/kg ww	< 0.01
Sewage treatment plant	0.016 mg/L	< 0.01
Agricultural soil	0.009 mg/kg dw	0.069
Predator (terrestrial)	0.002 mg/kg ww	< 0.01
Man via environment - Inhalation	8.6E-6 mg/m³	< 0.01
Man via environment - Oral	0.002 mg/kg bw/day	< 0.01

3.3.3. Environmental release and exposure: Formulation of Fine Fragrance products (cleaning with organic solvents) (ERC 2)

Release route	Release rate	Release estimation method
Water	0 kg/day	SpERC based Cosmetics Europe 2.2c.v2 - Cosmetics Europe 2.2c.v2 Industrial use in formulation of cosmetic products which involve cleaning of manufacturing equipment with organic solvents - (small scale) - Formulation of cosmetic products involving cleaning with organic solvents (small scale)
Air	0 kg/day	SpERC based same as above
Soil	0 kg/day	SpERC based

Release route	Release rate	Release estimation method
		same as above

Protection target	Exposure estimate (based on: EUSES 2.1.2)	RCR
Freshwater	1.084E-4 mg/L	0.053
Sediment (freshwater)	0.003 mg/kg dw	< 0.01
Marine water	9.43E-6 mg/L	0.046
Sediment (marine water)	2.795E-4 mg/kg dw	< 0.01
Predator (freshwater)	0.092 mg/kg ww	< 0.01
Predator (marine water)	0.008 mg/kg ww	< 0.01
Top predator (marine water)	0.008 mg/kg ww	< 0.01
Sewage treatment plant	0 mg/L	< 0.01
Agricultural soil	6.649E-6 mg/kg dw	< 0.01
Predator (terrestrial)	2.498E-5 mg/kg ww	< 0.01
Man via environment - Inhalation	7.356E-6 mg/m³	< 0.01
Man via environment - Oral	1.554E-4 mg/kg bw/day	< 0.01

3.3.4. Environmental release and exposure: Formulation of Body Care products (medium scale) (ERC 2)

Release route	Release rate	Release estimation method
Water	1.52 kg/day	SpERC based Cosmetics Europe 2.1i.v2 - Cosmetics Europe 2.1i.v2

Release route	Release rate	Release estimation method
		Industrial use in formulation of liquid water-borne cosmetic products - non-liquid creams (medium scale) - Formulation of non-liquid creams (medium scale)
Air	0 kg/day	SpERC based same as above
Soil	0 kg/day	SpERC based same as above

Protection target	Exposure estimate (based on: EUSES 2.1.2)	RCR
Freshwater	5.395E-4 mg/L	0.264
Sediment (freshwater)	0.016 mg/kg dw	0.024
Marine water	1.862E-4 mg/L	0.913
Sediment (marine water)	0.006 mg/kg dw	0.084
Predator (freshwater)	0.218 mg/kg ww	0.011
Predator (marine water)	0.06 mg/kg ww	< 0.01
Top predator (marine water)	0.018 mg/kg ww	< 0.01
Sewage treatment plant	0.018 mg/L	< 0.01
Agricultural soil	7.872E-6 mg/kg dw	< 0.01
Predator (terrestrial)	2.597E-5 mg/kg ww	< 0.01
Man via environment - Inhalation	1.434E-5 mg/m³	< 0.01
Man via environment - Oral	5.779E-4 mg/kg bw/day	< 0.01

3.3.5. Worker exposure: CS2 - Storage (IFRA F-2) (PROC 1)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, systemic, long-term	0.005 mg/m³ (TRA Workers 3.0)	< 0.01
Dermal, systemic, long-term	0.02 mg/kg bw/day (TRA Workers 3.0)	0.02
Combined routes, systemic, long-term		0.022

3.3.6. Worker exposure: CS3 - Mixing operations (closed systems) in batch process including filling of equipment and sample collection (IFRA F-3) (PROC 3)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, systemic, long-term	0.81 mg/m³ (TRA Workers 3.0)	0.23
Dermal, systemic, long-term	0.041 mg/kg bw/day (TRA Workers 3.0)	0.041
Combined routes, systemic, long-term		0.272

3.3.7. Worker exposure: CS4 - Mixing operations (open systems) in batch process including filling of equipment and sample collection (IFRA F-4) (PROC 5)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, systemic, long-term	0.27 mg/m³ (TRA Workers 3.0)	0.077
Dermal, systemic, long-term	0.411 mg/kg bw/day (TRA Workers 3.0)	0.411
Combined routes, systemic, long-term		0.488

3.3.8. Worker exposure: CS7 - Equipment cleaning and maintenance (IFRA F-7) (PROC 8a)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, systemic, long-term	0.9 mg/m³ (TRA Workers 3.0)	0.256
Dermal, systemic, long-term	0.137 mg/kg bw/day (TRA Workers 3.0)	0.137
Combined routes, systemic, long-term		0.393

3.3.9. Worker exposure: CS1 - Material transfers from/to vessel/container at dedicated facility (IFRA F-1). (PROC 8b)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, systemic, long-term	0.135 mg/m³ (TRA Workers 3.0)	0.038

Route of exposure and type of effects	Exposure estimate	RCR
Dermal, systemic, long-term	0.411 mg/kg bw/day (TRA Workers 3.0)	0.411
Combined routes, systemic, long-term		0.45

3.3.10. Worker exposure: CS6 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing) (IFRA F-6) (PROC 9)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, systemic, long-term	0.45 mg/m³ (TRA Workers 3.0)	0.128
Dermal, systemic, long-term	0.069 mg/kg bw/day (TRA Workers 3.0)	0.069
Combined routes, systemic, long-term		0.196

3.3.11. Worker exposure: CS8 - Production of preparations or articles by tabletting, compression, extrusion, pelletisation (AISE M-8) (PROC 14)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, systemic, long-term	0.54 mg/m³ (TRA Workers 3.0)	0.153
Dermal, systemic, long-term	0.034 mg/kg bw/day (TRA Workers 3.0)	0.034
Combined routes, systemic, long-term		0.188

3.3.12. Worker exposure: CS5 - QC laboratory (IFRA F-5) (PROC 15)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, systemic, long-term	1.35 mg/m³ (TRA Workers 3.0)	0.383
Dermal, systemic, long-term	0.02 mg/kg bw/day (TRA Workers 3.0)	0.02
Combined routes, systemic, long-term		0.404

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

Scaling method
The workers exposure and environmental emissions have been evaluated using TRA Workers 3.0 and EUSES 2.1.2, respectively.

Health
Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures / Operational Conditions outlined in Section 2 are implemented. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.
Environment
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.

4. ES 4: Use at industrial site; GES3 - Industrial end-use of washing and cleaning products

4.1. Title section

Environment	
CS 1: GES3 - Industrial end-use of washing and cleaning products	ERC 4
Worker	
CS 2: Industrial use of Food beverage and pharmacos products; Process cleaner; Cleaning In place (CIP) process (AISE-P801); Use Phase - Industrial use of Food beverage and pharmacos products; Defoaming product; Automatic process (AISE-P805); Use Phase	PROC 1
CS 3: Industrial use of Laundry products; Laundry detergent; Automatic process (AISE-P101); Use Phase - Industrial use of Laundry products; Conditioner (softner/starch); Automatic process (AISE-P104); Use Phase - Industrial use of Laundry products; Laundry aid (gasing); Automatic process (AISE-P107); Use Phase - Industrial use of Laundry products; Laundry aid (non-gasing); Automatic process (AISE-P110); Use Phase	PROC 2
CS 4: Industrial use of pharmacos products; Disinfection product; Semi-automatic process (AISE-P810); Use Phase	PROC 4
CS 5: Industrial use of Vehicle cleaning Products; Train cleaner; Semi-Automatic process (AISE-P707); Use Phase - Industrial use of Vehicle cleaning Products; Aeroplane cleaner; Semi-Automatic process (AISE-P708); Use Phase -Industrial Use of Vehicle cleaning Products; Car wash product; Semi-Automatic process (AISE-P709); Use Phase - Industrial Use of Vehicle cleaning Products; Dewaxing product; Semi-Automatic process (AISE-P712); Use Phase Industrial use of Food beverage and pharmacos products; Process cleaner; Semi closed cleaning process (AISE-P802); Use Phase	PROC 4
CS 6: Industrial use of Water treatment Products; Preservation and sanitation agent ; Drink and pool water (AISE-P904); Use Phase - Industrial use of Water treatment Products; Sanitation agent; Waste water (AISE-P905); Use Phase	PROC 4
CS 7: Industrial Use of Vehicle cleaning Products; Car wash product; Spray and rinse process (AISE-P710); Use Phase	PROC 7
CS 8: Industrial Use of Vehicle cleaning Products; Car wash product; Spray and wipe process (AISE-P711); Use Phase - Industrial Use of Vehicle cleaning Products; Boat cleaner; Spray and wipe process (AISE-P714); Use Phase	PROC 7

CS 9: Industrial use of Food beverage and pharmacos products; Foam cleaner; Semi-Automatic with venting process (AISE-P806); Use Phase	PROC 7
CS 10: Industrial use of Food beverage and pharmacos products; Chain maintenance product; Automatic spray process (AISE-P803); Use Phase - Industrial use of Food beverage and pharmacos products; Foam cleaner; Semi-Automatic without venting process (AISE-P807); Use Phase - Industrial use of Food beverage and pharmacos products; Animal housing care; Semi-Automatic process (AISE-P809); Use Phase - Industrial use of Food beverage and pharmacos products; Disinfection product; Fogging and gassing Semi-automatic process (AISE-P811); Use Phase	PROC 7
CS 11: Industrial Use of Facade/surface Cleaning Products; Façade/surface cleaner; High pressure process (AISE-P906); Use Phase - Industrial Use of Façade/surface Cleaning Products; Facade/surface cleaner; Medium pressure process (AISE-P907); Use Phase	PROC 7
CS 12: Industrial use of Laundry products; Laundry detergent; Automatic process (AISE-P101); Preparatory Phase - Industrial use of Laundry products; Conditioner (softner/starch); Automatic process (AISE-P104); Preparatory Phase - Industrial use of Laundry products; Laundry aid (gasing); Automatic process (AISE-P107); Preparatory Phase - Industrial use of Laundry products; Laundry aid (non-gasing); Automatic process (AISE-P110); Preparatory Phase - Industrial use of Food beverage and pharmacos products; Process cleaner; Cleaning In place (CIP) process (AISE-P801); Preparatory Phase - Industrial use of Food beverage and pharmacos products; Process cleaner; Semi closed cleaning process (AISE-P802); Preparatory Phase - Industrial use of Food beverage and pharmacos products; Chain maintenance product; Automatic spray process (AISE-P803); Preparatory Phase - Industrial use of Food beverage and pharmacos products; Defoaming product; Automatic process (AISE-P805); Preparatory Phase	PROC 8b
CS 13: Industrial use of Water treatment Products; Preservation and sanitation agent ; Drink and pool water (AISE-P904); Preparatory Phase - Industrial use of Water treatment Products; Sanitation agent; Waste water (AISE-P905); Preparatory Phase - Industrial Use of Façade/surface Cleaning Products; Façade/surface cleaner; High pressure process (AISE-P906); Preparatory Phase - Industrial Use of Façade/surface Cleaning Products; Façade/surface cleaner; Medium pressure process (AISE-P907); Preparatory Phase	PROC 8b
CS 14: Industrial use of Vehicle cleaning Products; Train cleaner; Semi-Automatic process (AISE-P707); Preparatory Phase - Industrial use of Vehicle cleaning Products; Aeroplane cleaner; Semi-Automatic process (AISE-P708); Preparatory Phase - Industrial Use of Vehicle cleaning Products; Car wash product; Semi-Automatic process (AISE-P709); Preparatory Phase - Industrial	PROC 8b

Use of Vehicle cleaning Products; Car wash product; Spray and rinse process (AISE-P710); Preparatory Phase - Industrial Use of Vehicle cleaning Products; Dewaxing product; Semi-Automatic process (AISE-P712); Preparatory Phase - Industrial use of Food beverage and pharmacos products; Foam cleaner; Semi-Automatic without venting process (AISE-P807); Preparatory Phase - Industrial use of Food beverage and pharmacos products; Disinfection product; Fogging and gassing Semi-automatic process (AISE-P811); Preparatory Phase	
CS 15: Industrial Use of Vehicle cleaning Products; Car wash product; Spray and wipe process (AISE-P711); Preparatory Phase - Industrial Use of Vehicle cleaning Products; Boat cleaning; semi automatic (AISE-P713); Preparatory Phase - Industrial Use of Vehicle cleaning Products; Boat cleaner; Spray and wipe process (AISE-P714); Preparatory Phase	PROC 8b
CS 16: Industrial use of Food beverage and pharmacos products; Animal housing care; Semi-Automatic process (AISE-P809); Preparatory Phase - Industrial use of pharmacos products; Disinfection product; Semi-automatic process (AISE-P810); Preparatory Phase	PROC 8b
CS 17: Industrial use of Food beverage and pharmacos products; Foam cleaner; Semi-Automatic with venting process (AISE-P806); Preparatory Phase	PROC 8b
CS 18: Industrial Use of Vehicle cleaning Products; Car wash product; Spray and wipe process (AISE-P711); Use Phase - Industrial Use of Vehicle cleaning Products; Boat cleaning; semi automatic (AISE-P713); Use Phase - Industrial Use of Vehicle cleaning Products; Boat cleaner; Spray and wipe process (AISE-P714); Use Phase	PROC 10
CS 19: Industrial use of Food beverage and pharmacos products; Chain maintenance product; Automatic drip and brush process (AISE-P804); Use Phase	PROC 13

4.2. Conditions of use affecting exposure

4.2.1. Control of environmental exposure: GES3 - Industrial end-use of washing and cleaning products (ERC 4)

Amount used, frequency and duration of use (or from service life)
Daily amount per site <= 0.0014 tonnes/day
Annual amount per site <= 0.3 tonnes/year
Emission days : >= 250 (days/year)

Conditions and measures related to sewage treatment plant
Estimated substance removal from wastewater via domestic sewage treatment 88.4 %
Assumed domestic sewage treatment plant flow >= 10000 m3/d
Conditions and measures related to treatment of waste (including article waste)
Dispose of waste or used sacks/containers according to local regulations.
Other conditions affecting environmental exposure
Receiving surface water flow >= 400000 m3/d

4.2.2. Control of worker exposure: Industrial use of Food beverage and pharmacos products; Process cleaner; Cleaning In place (CIP) process (AISE-P801); Use Phase - Industrial use of Food beverage and pharmacos products; Defoaming product; Automatic process (AISE-P805); Use Phase (PROC 1)

Product (article) characteristics
Limit the substance content in the product to 1 % .
Amount used (or contained in articles), frequency and duration of use/exposure
Covers daily exposures up to 8 hours.
Technical and organisational conditions and measures
Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour) .
Use in closed process, no likelihood of exposure
Advanced (industrial) exposure controls assumed.
Other conditions affecting workers exposure
Indoor use
Assumes process temperature up to 40.0 °C

4.2.3. Control of worker exposure: Industrial use of Laundry products; Laundry detergent; Automatic process (AISE-P101); Use Phase - Industrial use of Laundry products; Conditioner (softner/starch); Automatic process (AISE-P104); Use Phase - Industrial use of Laundry products; Laundry aid (gasing); Automatic process (AISE-P107); Use Phase - Industrial use of Laundry products; Laundry aid (non-gasing); Automatic process (AISE-P110); Use Phase (PROC 2)

Product (article) characteristics
Limit the substance content in the product to 1 % .
Amount used (or contained in articles), frequency and duration of use/exposure
Covers daily exposures up to 8 hours.
Technical and organisational conditions and measures
Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour) .
Use in closed, continuous process with occasional controlled exposure
Advanced (industrial) exposure controls assumed.
Other conditions affecting workers exposure
Indoor use
Assumes process temperature up to 40.0 °C

4.2.4. Control of worker exposure: Industrial use of pharmacos products; Disinfection product; Semi-automatic process (AISE-P810); Use Phase (PROC 4)

Product (article) characteristics
Limit the substance content in the product to 1 % .
Amount used (or contained in articles), frequency and duration of use/exposure
Avoid carrying out activities involving exposure for more than 4 hours.
Technical and organisational conditions and measures
Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour) .
Use in semi-closed process with opportunity for exposure
Advanced (industrial) exposure controls assumed.
Conditions and measures related to personal protection, hygiene and health evaluation
Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.; For further specification, refer to section 8 of the SDS.

Other conditions affecting workers exposure
Indoor use
Assumes process temperature up to 40.0 °C

4.2.5. Control of worker exposure: Industrial use of Vehicle cleaning Products; Train cleaner; Semi-Automatic process (AISE-P707); Use Phase - Industrial use of Vehicle cleaning Products; Aeroplane cleaner; Semi-Automatic process (AISE-P708); Use Phase -Industrial Use of Vehicle cleaning Products; Car wash product; Semi-Automatic process (AISE-P709); Use Phase - Industrial Use of Vehicle cleaning Products; Dewaxing product; Semi-Automatic process (AISE-P712); Use Phase Industrial use of Food beverage and pharmacos products; Process cleaner; Semi closed cleaning process (AISE-P802); Use Phase (PROC 4)

Product (article) characteristics
Limit the substance content in the product to 1 % .
Amount used (or contained in articles), frequency and duration of use/exposure
Covers daily exposures up to 8 hours.
Technical and organisational conditions and measures
Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour) .
Use in semi-closed process with opportunity for exposure
Advanced (industrial) exposure controls assumed.
Conditions and measures related to personal protection, hygiene and health evaluation
Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.; For further specification, refer to section 8 of the SDS.
Wear a respirator providing a minimum efficiency of 90.0 %; For further specification, refer to section 8 of the SDS.
Other conditions affecting workers exposure
Indoor use
Assumes process temperature up to 40.0 °C

4.2.6. Control of worker exposure: Industrial use of Water treatment Products; Preservation and sanitation agent ; Drink and pool water (AISE-P904); Use Phase -

Industrial use of Water treatment Products; Sanitation agent; Waste water (AISE-P905); Use Phase (PROC 4)

Product (article) characteristics
Limit the substance content in the product to 1 % .
Amount used (or contained in articles), frequency and duration of use/exposure
Avoid carrying out activities involving exposure for more than 4 hours.
Technical and organisational conditions and measures
Use in semi-closed process with opportunity for exposure
Advanced (industrial) exposure controls assumed.
Conditions and measures related to personal protection, hygiene and health evaluation
Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.; For further specification, refer to section 8 of the SDS.
Other conditions affecting workers exposure
Ensure operation is undertaken outdoors.
Assumes process temperature up to 40.0 °C

4.2.7. Control of worker exposure: Industrial Use of Vehicle cleaning Products; Car wash product; Spray and rinse process (AISE-P710); Use Phase (PROC 7)

Product (article) characteristics
Limit the substance content in the product to 1 % .
Amount used (or contained in articles), frequency and duration of use/exposure
Avoid carrying out activities involving exposure for more than 1 hour.
Technical and organisational conditions and measures
Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour) .
Advanced (industrial) exposure controls assumed.
Conditions and measures related to personal protection, hygiene and health evaluation

Wear chemically resistant gloves (tested to EN374) in combination with specific activity training.; For further specification, refer to section 8 of the SDS.
Wear a respirator providing a minimum efficiency of 90.0 %; For further specification, refer to section 8 of the SDS.
Other conditions affecting workers exposure
Indoor use
Assumes process temperature up to 40.0 °C

4.2.8. Control of worker exposure: Industrial Use of Vehicle cleaning Products; Car wash product; Spray and wipe process (AISE-P711); Use Phase - Industrial Use of Vehicle cleaning Products; Boat cleaner; Spray and wipe process (AISE-P714); Use Phase (PROC 7)

Product (article) characteristics
Limit the substance content in the product to 1 % .
Amount used (or contained in articles), frequency and duration of use/exposure
Avoid carrying out activities involving exposure for more than 1 hour.
Technical and organisational conditions and measures
Advanced (industrial) exposure controls assumed.
Conditions and measures related to personal protection, hygiene and health evaluation
Wear chemically resistant gloves (tested to EN374) in combination with specific activity training.; For further specification, refer to section 8 of the SDS.
Wear a respirator providing a minimum efficiency of 90.0 %; For further specification, refer to section 8 of the SDS.
Other conditions affecting workers exposure
Ensure operation is undertaken outdoors.
Assumes process temperature up to 40.0 °C

4.2.9. Control of worker exposure: Industrial use of Food beverage and pharmacos products; Foam cleaner; Semi-Automatic with venting process (AISE-P806); Use Phase (PROC 7)

Product (article) characteristics
Limit the substance content in the product to 1 % .
Amount used (or contained in articles), frequency and duration of use/exposure
Avoid carrying out activities involving exposure for more than 4 hours.
Technical and organisational conditions and measures
Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour) .
Local exhaust ventilation - efficiency of at least 95.0 %
Advanced (industrial) exposure controls assumed.
Conditions and measures related to personal protection, hygiene and health evaluation
Wear chemically resistant gloves (tested to EN374) in combination with specific activity training.; For further specification, refer to section 8 of the SDS.
Wear a respirator providing a minimum efficiency of 90.0 %; For further specification, refer to section 8 of the SDS.
Other conditions affecting workers exposure
Indoor use
Assumes process temperature up to 40.0 °C

4.2.10. Control of worker exposure: Industrial use of Food beverage and pharmacos products; Chain maintenance product; Automatic spray process (AISE-P803); Use Phase - Industrial use of Food beverage and pharmacos products; Foam cleaner; Semi-Automatic without venting process (AISE-P807); Use Phase - Industrial use of Food beverage and pharmacos products; Animal housing care; Semi-Automatic process (AISE-P809); Use Phase - Industrial use of Food beverage and pharmacos products; Disinfection product; Fogging and gassing Semi-automatic process (AISE-P811); Use Phase (PROC 7)

Product (article) characteristics
Limit the substance content in the product to 1 % .
Amount used (or contained in articles), frequency and duration of use/exposure
Avoid carrying out activities involving exposure for more than 1 hour.

Technical and organisational conditions and measures
Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour) .
Advanced (industrial) exposure controls assumed.
Conditions and measures related to personal protection, hygiene and health evaluation
Wear chemically resistant gloves (tested to EN374) in combination with specific activity training.; For further specification, refer to section 8 of the SDS.
Wear a respirator providing a minimum efficiency of 95.0 %; For further specification, refer to section 8 of the SDS.
Other conditions affecting workers exposure
Indoor use
Assumes process temperature up to 40.0 °C

4.2.11. Control of worker exposure: Industrial Use of Facade/surface Cleaning Products; Façade/surface cleaner; High pressure process (AISE-P906); Use Phase - Industrial Use of Façade/surface Cleaning Products; Facade/surface cleaner; Medium pressure process (AISE-P907); Use Phase (PROC 7)

Product (article) characteristics
Limit the substance content in the product to 1 % .
Amount used (or contained in articles), frequency and duration of use/exposure
Avoid carrying out activities involving exposure for more than 1 hour.
Technical and organisational conditions and measures
Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour) .
Advanced (industrial) exposure controls assumed.
Conditions and measures related to personal protection, hygiene and health evaluation
Wear chemically resistant gloves (tested to EN374) in combination with specific activity training.; For further specification, refer to section 8 of the SDS.
Wear a respirator providing a minimum efficiency of 95.0 %; For further specification, refer to section 8 of the SDS.

Other conditions affecting workers exposure
Indoor use
Assumes process temperature up to 40.0 °C

4.2.12. Control of worker exposure: Industrial use of Laundry products; Laundry detergent; Automatic process (AISE-P101); Preparatory Phase - Industrial use of Laundry products; Conditioner (softner/starch); Automatic process (AISE-P104); Preparatory Phase - Industrial use of Laundry products; Laundry aid (gasing); Automatic process (AISE-P107); Preparatory Phase - Industrial use of Laundry products; Laundry aid (non-gasing); Automatic process (AISE-P110); Preparatory Phase - Industrial use of Food beverage and pharmacos products; Process cleaner; Cleaning In place (CIP) process (AISE-P801); Preparatory Phase - Industrial use of Food beverage and pharmacos products; Process cleaner; Semi closed cleaning process (AISE-P802); Preparatory Phase - Industrial use of Food beverage and pharmacos products; Chain maintenance product; Automatic spray process (AISE-P803); Preparatory Phase - Industrial use of Food beverage and pharmacos products; Defoaming product; Automatic process (AISE-P805); Preparatory Phase (PROC 8b)

Product (article) characteristics
Limit the substance content in the product to 1 % .
Amount used (or contained in articles), frequency and duration of use/exposure
Avoid carrying out activities involving exposure for more than 15 minutes.
Technical and organisational conditions and measures
Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour) .
Use in semi-closed process with opportunity for exposure
Advanced (industrial) exposure controls assumed.
Conditions and measures related to personal protection, hygiene and health evaluation
Wear suitable gloves tested to EN374.
Other conditions affecting workers exposure
Indoor use
Assumes process temperature up to 40.0 °C

4.2.13. Control of worker exposure: Industrial use of Water treatment Products;

Preservation and sanitation agent ; Drink and pool water (AISE-P904); Preparatory Phase - Industrial use of Water treatment Products; Sanitation agent; Waste water (AISE-P905); Preparatory Phase - Industrial Use of Façade/surface Cleaning Products; Façade/surface cleaner; High pressure process (AISE-P906); Preparatory Phase - Industrial Use of Façade/surface Cleaning Products; Façade/surface cleaner; Medium pressure process (AISE-P907); Preparatory Phase (PROC 8b)

Product (article) characteristics
Limit the substance content in the product to 1 % .
Amount used (or contained in articles), frequency and duration of use/exposure
Avoid carrying out activities involving exposure for more than 15 minutes.
Technical and organisational conditions and measures
Use in semi-closed process with opportunity for exposure
Advanced (industrial) exposure controls assumed.
Conditions and measures related to personal protection, hygiene and health evaluation
Wear suitable gloves tested to EN374.
Other conditions affecting workers exposure
Ensure operation is undertaken outdoors.
Assumes process temperature up to 40.0 °C

4.2.14. Control of worker exposure: Industrial use of Vehicle cleaning Products; Train cleaner; Semi-Automatic process (AISE-P707); Preparatory Phase - Industrial use of Vehicle cleaning Products; Aeroplane cleaner; Semi-Automatic process (AISE-P708); Preparatory Phase - Industrial Use of Vehicle cleaning Products; Car wash product; Semi-Automatic process (AISE-P709); Preparatory Phase - Industrial Use of Vehicle cleaning Products; Car wash product; Spray and rinse process (AISE-P710); Preparatory Phase - Industrial Use of Vehicle cleaning Products; Dewaxing product; Semi-Automatic process (AISE-P712); Preparatory Phase - Industrial use of Food beverage and pharmacos products; Foam cleaner; Semi-Automatic without venting process (AISE-P807); Preparatory Phase - Industrial use of Food beverage and pharmacos products; Disinfection product; Fogging and gassing Semi-automatic process (AISE-P811); Preparatory Phase (PROC 8b)

Product (article) characteristics
Limit the substance content in the product to 1 % .

Amount used (or contained in articles), frequency and duration of use/exposure
Avoid carrying out activities involving exposure for more than 1 hour.
Technical and organisational conditions and measures
Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour) .
Use in semi-closed process with opportunity for exposure
Advanced (industrial) exposure controls assumed.
Conditions and measures related to personal protection, hygiene and health evaluation
Wear suitable gloves tested to EN374.
Other conditions affecting workers exposure
Indoor use
Assumes process temperature up to 40.0 °C

4.2.15. Control of worker exposure: Industrial Use of Vehicle cleaning Products; Car wash product; Spray and wipe process (AISE-P711); Preparatory Phase - Industrial Use of Vehicle cleaning Products; Boat cleaning; semi automatic (AISE-P713); Preparatory Phase - Industrial Use of Vehicle cleaning Products; Boat cleaner; Spray and wipe process (AISE-P714); Preparatory Phase (PROC 8b)

Product (article) characteristics
Limit the substance content in the product to 1 % .
Amount used (or contained in articles), frequency and duration of use/exposure
Avoid carrying out activities involving exposure for more than 1 hour.
Technical and organisational conditions and measures
Use in semi-closed process with opportunity for exposure
Advanced (industrial) exposure controls assumed.
Conditions and measures related to personal protection, hygiene and health evaluation
Wear suitable gloves tested to EN374.

Other conditions affecting workers exposure
Ensure operation is undertaken outdoors.
Assumes process temperature up to 40.0 °C

4.2.16. Control of worker exposure: Industrial use of Food beverage and pharmacos products; Animal housing care; Semi-Automatic process (AISE-P809); Preparatory Phase - Industrial use of pharmacos products; Disinfection product; Semi-automatic process (AISE-P810); Preparatory Phase (PROC 8b)

Product (article) characteristics
Limit the substance content in the product to 1 % .
Amount used (or contained in articles), frequency and duration of use/exposure
Avoid carrying out activities involving exposure for more than 1 hour.
Technical and organisational conditions and measures
Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour) .
Use in semi-closed process with opportunity for exposure
Advanced (industrial) exposure controls assumed.
Conditions and measures related to personal protection, hygiene and health evaluation
Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.; For further specification, refer to section 8 of the SDS.
Other conditions affecting workers exposure
Indoor use
Assumes process temperature up to 40.0 °C

4.2.17. Control of worker exposure: Industrial use of Food beverage and pharmacos products; Foam cleaner; Semi-Automatic with venting process (AISE-P806); Preparatory Phase (PROC 8b)

Product (article) characteristics
Limit the substance content in the product to 1 % .
Amount used (or contained in articles), frequency and duration of use/exposure

Avoid carrying out activities involving exposure for more than 1 hour.
Technical and organisational conditions and measures
Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour) .
Use in semi-closed process with opportunity for exposure
Local exhaust ventilation - efficiency of at least 95.0 %
Advanced (industrial) exposure controls assumed.
Conditions and measures related to personal protection, hygiene and health evaluation
Wear suitable gloves tested to EN374.
Other conditions affecting workers exposure
Indoor use
Assumes process temperature up to 40.0 °C

4.2.18. Control of worker exposure: Industrial Use of Vehicle cleaning Products; Car wash product; Spray and wipe process (AISE-P711); Use Phase - Industrial Use of Vehicle cleaning Products; Boat cleaning; semi automatic (AISE-P713); Use Phase - Industrial Use of Vehicle cleaning Products; Boat cleaner; Spray and wipe process (AISE-P714); Use Phase (PROC 10)

Product (article) characteristics
Limit the substance content in the product to 1 % .
Amount used (or contained in articles), frequency and duration of use/exposure
Covers daily exposures up to 8 hours.
Technical and organisational conditions and measures
Advanced (industrial) exposure controls assumed.
Conditions and measures related to personal protection, hygiene and health evaluation
Wear chemically resistant gloves (tested to EN374) in combination with specific activity training.; For further specification, refer to section 8 of the SDS.

Wear a respirator providing a minimum efficiency of 90.0 %; For further specification, refer to section 8 of the SDS.
Other conditions affecting workers exposure
Ensure operation is undertaken outdoors.
Assumes process temperature up to 40.0 °C

4.2.19. Control of worker exposure: Industrial use of Food beverage and pharmacos products; Chain maintenance product; Automatic drip and brush process (AISE-P804); Use Phase (PROC 13)

Product (article) characteristics
Limit the substance content in the product to 1 % .
Amount used (or contained in articles), frequency and duration of use/exposure
Covers daily exposures up to 8 hours.
Technical and organisational conditions and measures
Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour) .
Local exhaust ventilation - efficiency of at least 90.0 %
Advanced (industrial) exposure controls assumed.
Conditions and measures related to personal protection, hygiene and health evaluation
Wear suitable gloves tested to EN374.
Other conditions affecting workers exposure
Indoor use
Assumes process temperature up to 40.0 °C

4.3. Exposure estimation and reference to its source

4.3.1. Environmental release and exposure: GES3 - Industrial end-use of washing and cleaning products (ERC 4)

Release route	Release rate	Release estimation method
Water	1.36 kg/day	SpERC based

Release route	Release rate	Release estimation method
		AISE spERC 4.1.v1 - AISE spERC 4.1.v1 AISE - Industrial use of Water-borne Processing Aids - AISE - Industrial use of Water-borne Processing Aids
Air	0 kg/day	SpERC based same as above
Soil	0 kg/day	SpERC based same as above

Protection target	Exposure estimate (based on: EUSES 2.1.2)	RCR
Freshwater	4.942E-4 mg/L	0.242
Sediment (freshwater)	0.015 mg/kg dw	0.022
Marine water	1.676E-4 mg/L	0.822
Sediment (marine water)	0.005 mg/kg dw	0.075
Predator (freshwater)	0.192 mg/kg ww	< 0.01
Predator (marine water)	0.049 mg/kg ww	< 0.01
Top predator (marine water)	0.016 mg/kg ww	< 0.01
Sewage treatment plant	0.016 mg/L	< 0.01
Agricultural soil	0.009 mg/kg dw	0.069
Predator (terrestrial)	0.002 mg/kg ww	< 0.01
Man via environment - Inhalation	1.287E-5 mg/m³	< 0.01
Man via environment - Oral	5.166E-4 mg/kg bw/day	< 0.01

4.3.2. Worker exposure: Industrial use of Food beverage and pharmacos products; Process cleaner; Cleaning In place (CIP) process (AISE-P801); Use Phase - Industrial use of Food beverage and pharmacos products; Defoaming product; Automatic process (AISE-P805); Use Phase (PROC 1)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, systemic, long-term	0.004 mg/m³ (TRA Workers 3.0)	< 0.01
Dermal, systemic, long-term	0.003 mg/kg bw/day (TRA Workers 3.0)	< 0.01
Combined routes, systemic, long-term		< 0.01

4.3.3. Worker exposure: Industrial use of Laundry products; Laundry detergent; Automatic process (AISE-P101); Use Phase - Industrial use of Laundry products; Conditioner (softner/starch); Automatic process (AISE-P104); Use Phase - Industrial use of Laundry products; Laundry aid (gasing); Automatic process (AISE-P107); Use Phase - Industrial use of Laundry products; Laundry aid (non-gasing); Automatic process (AISE-P110); Use Phase (PROC 2)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, systemic, long-term	0.45 mg/m³ (TRA Workers 3.0)	0.128
Dermal, systemic, long-term	0.137 mg/kg bw/day (TRA Workers 3.0)	0.137
Combined routes, systemic, long-term		0.265

4.3.4. Worker exposure: Industrial use of pharmacos products; Disinfection product; Semi-automatic process (AISE-P810); Use Phase (PROC 4)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, systemic, long-term	1.35 mg/m³ (TRA Workers 3.0)	0.383
Dermal, systemic, long-term	0.069 mg/kg bw/day (TRA Workers 3.0)	0.069
Combined routes, systemic, long-term		0.452

4.3.5. Worker exposure: Industrial use of Vehicle cleaning Products; Train cleaner; Semi-Automatic process (AISE-P707); Use Phase - Industrial use of Vehicle cleaning Products; Aeroplane cleaner; Semi-Automatic process (AISE-P708); Use Phase - Industrial Use of Vehicle cleaning Products; Car wash product; Semi-Automatic process (AISE-P709); Use Phase - Industrial Use of Vehicle cleaning Products; Dewaxing product; Semi-Automatic process (AISE-P712); Use Phase Industrial use of Food beverage and pharmacos products; Process cleaner; Semi closed cleaning process (AISE-P802); Use Phase (PROC 4)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, systemic, long-term	0.225 mg/m³ (TRA Workers 3.0)	0.064

Route of exposure and type of effects	Exposure estimate	RCR
Dermal, systemic, long-term	0.069 mg/kg bw/day (TRA Workers 3.0)	0.069
Combined routes, systemic, long-term		0.132

4.3.6. Worker exposure: Industrial use of Water treatment Products; Preservation and sanitation agent ; Drink and pool water (AISE-P904); Use Phase - Industrial use of Water treatment Products; Sanitation agent; Waste water (AISE-P905); Use Phase (PROC 4)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, systemic, long-term	1.35 mg/m³ (TRA Workers 3.0)	0.383
Dermal, systemic, long-term	0.069 mg/kg bw/day (TRA Workers 3.0)	0.069
Combined routes, systemic, long-term		0.452

4.3.7. Worker exposure: Industrial Use of Vehicle cleaning Products; Car wash product; Spray and rinse process (AISE-P710); Use Phase (PROC 7)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, systemic, long-term	0.9 mg/m³ (TRA Workers 3.0)	0.256
Dermal, systemic, long-term	0.214 mg/kg bw/day (TRA Workers 3.0)	0.214
Combined routes, systemic, long-term		0.47

4.3.8. Worker exposure: Industrial Use of Vehicle cleaning Products; Car wash product; Spray and wipe process (AISE-P711); Use Phase - Industrial Use of Vehicle cleaning Products; Boat cleaner; Spray and wipe process (AISE-P714); Use Phase (PROC 7)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, systemic, long-term	0.9 mg/m³ (TRA Workers 3.0)	0.256
Dermal, systemic, long-term	0.214 mg/kg bw/day (TRA Workers 3.0)	0.214
Combined routes, systemic, long-term		0.47

4.3.9. Worker exposure: Industrial use of Food beverage and pharmacos products; Foam cleaner; Semi-Automatic with venting process (AISE-P806); Use Phase (PROC 7)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, systemic, long-term	0.135 mg/m³ (TRA Workers 3.0)	0.038
Dermal, systemic, long-term	0.214 mg/kg bw/day (TRA Workers 3.0)	0.214
Combined routes, systemic, long-term		0.253

4.3.10. Worker exposure: Industrial use of Food beverage and pharmacos products; Chain maintenance product; Automatic spray process (AISE-P803); Use Phase - Industrial use of Food beverage and pharmacos products; Foam cleaner; Semi-Automatic without venting process (AISE-P807); Use Phase - Industrial use of Food beverage and pharmacos products; Animal housing care; Semi-Automatic process (AISE-P809); Use Phase - Industrial use of Food beverage and pharmacos products; Disinfection product; Fogging and gassing Semi-automatic process (AISE-P811); Use Phase (PROC 7)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, systemic, long-term	0.45 mg/m³ (TRA Workers 3.0)	0.128
Dermal, systemic, long-term	0.214 mg/kg bw/day (TRA Workers 3.0)	0.214
Combined routes, systemic, long-term		0.342

4.3.11. Worker exposure: Industrial Use of Facade/surface Cleaning Products; Façade/surface cleaner; High pressure process (AISE-P906); Use Phase - Industrial Use of Façade/surface Cleaning Products; Facade/surface cleaner; Medium pressure process (AISE-P907); Use Phase (PROC 7)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, systemic, long-term	0.45 mg/m³ (TRA Workers 3.0)	0.128
Dermal, systemic, long-term	0.214 mg/kg bw/day (TRA Workers 3.0)	0.214
Combined routes, systemic, long-term		0.342

4.3.12. Worker exposure: Industrial use of Laundry products; Laundry detergent; Automatic process (AISE-P101); Preparatory Phase - Industrial use of Laundry products; Conditioner (softner/starch); Automatic process (AISE-P104); Preparatory Phase - Industrial use of Laundry products; Laundry aid (gasing); Automatic process (AISE-P107); Preparatory Phase - Industrial use of Laundry products; Laundry aid (non-gasing); Automatic process (AISE-P110); Preparatory Phase - Industrial use of Food beverage and pharmacos products; Process cleaner; Cleaning In place (CIP) process (AISE-P801); Preparatory Phase - Industrial use of Food beverage and pharmacos products; Process cleaner; Semi closed cleaning process (AISE-P802); Preparatory Phase - Industrial use of Food beverage and pharmacos products; Chain

maintenance product; Automatic spray process (AISE-P803); Preparatory Phase - Industrial use of Food beverage and pharmacos products; Defoaming product; Automatic process (AISE-P805); Preparatory Phase (PROC 8b)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, systemic, long-term	0.225 mg/m³ (TRA Workers 3.0)	0.064
Dermal, systemic, long-term	0.274 mg/kg bw/day (TRA Workers 3.0)	0.274
Combined routes, systemic, long-term		0.338

4.3.13. Worker exposure: Industrial use of Water treatment Products; Preservation and sanitation agent ; Drink and pool water (AISE-P904); Preparatory Phase - Industrial use of Water treatment Products; Sanitation agent; Waste water (AISE-P905); Preparatory Phase - Industrial Use of Façade/surface Cleaning Products; Façade/surface cleaner; High pressure process (AISE-P906); Preparatory Phase - Industrial Use of Façade/surface Cleaning Products; Façade/surface cleaner; Medium pressure process (AISE-P907); Preparatory Phase (PROC 8b)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, systemic, long-term	0.225 mg/m³ (TRA Workers 3.0)	0.064
Dermal, systemic, long-term	0.274 mg/kg bw/day (TRA Workers 3.0)	0.274
Combined routes, systemic, long-term		0.338

4.3.14. Worker exposure: Industrial use of Vehicle cleaning Products; Train cleaner; Semi-Automatic process (AISE-P707); Preparatory Phase - Industrial use of Vehicle cleaning Products; Aeroplane cleaner; Semi-Automatic process (AISE-P708); Preparatory Phase - Industrial Use of Vehicle cleaning Products; Car wash product; Semi-Automatic process (AISE-P709); Preparatory Phase - Industrial Use of Vehicle cleaning Products; Car wash product; Spray and rinse process (AISE-P710); Preparatory Phase - Industrial Use of Vehicle cleaning Products; Dewaxing product; Semi-Automatic process (AISE-P712); Preparatory Phase - Industrial use of Food beverage and pharmacos products; Foam cleaner; Semi-Automatic without venting process (AISE-P807); Preparatory Phase - Industrial use of Food beverage and pharmacos products; Disinfection product; Fogging and gassing Semi-automatic process (AISE-P811); Preparatory Phase (PROC 8b)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, systemic, long-term	0.45 mg/m³ (TRA Workers 3.0)	0.128
Dermal, systemic, long-term	0.274 mg/kg bw/day (TRA Workers 3.0)	0.274
Combined routes, systemic, long-term		0.402

4.3.15. Worker exposure: Industrial Use of Vehicle cleaning Products; Car wash product; Spray and wipe process (AISE-P711); Preparatory Phase - Industrial Use of Vehicle cleaning Products; Boat cleaning; semi automatic (AISE-P713); Preparatory Phase - Industrial Use of Vehicle cleaning Products; Boat cleaner; Spray and wipe process (AISE-P714); Preparatory Phase (PROC 8b)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, systemic, long-term	0.45 mg/m³ (TRA Workers 3.0)	0.128
Dermal, systemic, long-term	0.274 mg/kg bw/day (TRA Workers 3.0)	0.274
Combined routes, systemic, long-term		0.402

4.3.16. Worker exposure: Industrial use of Food beverage and pharmacos products; Animal housing care; Semi-Automatic process (AISE-P809); Preparatory Phase - Industrial use of pharmacos products; Disinfection product; Semi-automatic process (AISE-P810); Preparatory Phase (PROC 8b)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, systemic, long-term	0.45 mg/m³ (TRA Workers 3.0)	0.128
Dermal, systemic, long-term	0.137 mg/kg bw/day (TRA Workers 3.0)	0.137
Combined routes, systemic, long-term		0.265

4.3.17. Worker exposure: Industrial use of Food beverage and pharmacos products; Foam cleaner; Semi-Automatic with venting process (AISE-P806); Preparatory Phase (PROC 8b)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, systemic, long-term	0.022 mg/m³ (TRA Workers 3.0)	< 0.01
Dermal, systemic, long-term	0.274 mg/kg bw/day (TRA Workers 3.0)	0.274
Combined routes, systemic, long-term		0.281

4.3.18. Worker exposure: Industrial Use of Vehicle cleaning Products; Car wash product; Spray and wipe process (AISE-P711); Use Phase - Industrial Use of Vehicle cleaning Products; Boat cleaning; semi automatic (AISE-P713); Use Phase - Industrial Use of Vehicle cleaning Products; Boat cleaner; Spray and wipe process (AISE-P714); Use Phase (PROC 10)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, systemic, long-term	0.45 mg/m³ (TRA Workers 3.0)	0.128

Route of exposure and type of effects	Exposure estimate	RCR
Dermal, systemic, long-term	0.137 mg/kg bw/day (TRA Workers 3.0)	0.137
Combined routes, systemic, long-term		0.265

4.3.19. Worker exposure: Industrial use of Food beverage and pharmacos products; Chain maintenance product; Automatic drip and brush process (AISE-P804); Use Phase (PROC 13)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, systemic, long-term	0.45 mg/m³ (TRA Workers 3.0)	0.128
Dermal, systemic, long-term	0.274 mg/kg bw/day (TRA Workers 3.0)	0.274
Combined routes, systemic, long-term		0.402

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

Scaling method
The workers exposure and environmental emissions have been evaluated using TRA Workers 3.0 and EUSES 2.1.2, respectively.
Health
Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures / Operational Conditions outlined in Section 2 are implemented. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.
Environment
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.

5. ES 5: Use by professional worker; GES4 - Professional end-use of washing and cleaning products

5.1. Title section

Environment	
CS 1: GES4 - Professional end-use of washing and cleaning products (indoor use)	ERC 8d, ERC 8a
Worker	
CS 2: Professional Use of Laundry products ; Laundry detergent; Semi automatic process (AISE-P102); Use Phase - Professional Use of Laundry products ; Conditioner (softener/starch); Semi automatic process (AISE-P105); Use Phase - Professional Use of Laundry products ; Laundry aid (gasing); Semi automatic process (AISE-P108); Use Phase - Professional Use of Laundry products ; Laundry aid (non-gasing); Semi automatic process (AISE-P111); Use Phase - Professional Use of Dishwash products; Dishwash product; Semi-Automatic process (AISE-P203); Use Phase - Professional Use of Dishwash products; Rinse aid; Semi-Automatic process (AISE-P204); Use Phase - Professional Use of Medical Devices; Medical devices ; Semi-automatic process (AISE-P1101); Use Phase	PROC 1
CS 3: Professional Use of Dishwash products; Dishwash and rinse aid product; Automatic process (AISE-P202); Use Phase	PROC 2
CS 4: Professional Use of Laundry products ; Laundry aid (non-gasing); Manual process (AISE-P112); Use Phase	PROC 4
CS 5: Professional Use of Vehicle cleaning Products; Car wash product; Semi-Automatic process (AISE-P701); Use Phase - Professional Use of Vehicle cleaning Products; Dewaxing product; Semi-Automatic process (AISE-P704); Use Phase	PROC 4
CS 6: Professional Use of Laundry products ; Laundry detergent; Semi automatic process (AISE-P102); Preparatory Phase - Professional Use of Laundry products ; Conditioner (softener/starch); Semi automatic process (AISE-P105); Preparatory Phase - Professional Use of Laundry products ; Laundry aid (gasing); Semi automatic process (AISE-P108); Preparatory Phase - Professional Use of Laundry products ; Laundry aid (non-gasing); Semi automatic process (AISE-P111); Preparatory Phase - Professional Use of Laundry products ; Laundry aid (non-gasing); Manual process (AISE-P112); Preparatory Phase - Professional Use of Dishwash products; Dishwash product; Semi-Automatic process (AISE-P203); Preparatory Phase - Professional Use of Dishwash products; Rinse aid; Semi-Automatic process (AISE-P204); Preparatory Phase - Professional Use of	PROC 8a

General surface cleaning products; Periodic cleaning by dipping (AISE-P309); Preparatory Phase - Professional Use of Medical Devices; Medical devices ; Semi-automatic process (AISE-P1101); Preparatory Phase - Professional Use of Medical Devices; Medical devices ; Dipping process (AISE-P1102); Preparatory Phase	
CS 7: Professional Use of Façade/surface Cleaning Products; Façade/surface cleaner; High pressure process (AISE-P901); Preparatory Phase - Professional Use of Façade/surface Cleaning Products; Façade/surface cleaner; Medium pressure process (AISE-P902); Preparatory Phase	PROC 8a
CS 8: Professional Use of Dishwash products; Dishwash product; Manual process (AISE-P201); Preparatory Phase	PROC 8a
CS 9: Professional Use of Floor care products; Floor cleaner; Manual process (AISE-P403); Preparatory Phase - Professional Use of General surface cleaning products; General purpose cleaner; Manual process (AISE-P301); Preparatory Phase - Professional Use of General surface cleaning products; General purpose cleaner; Spray and wipe; manual process (AISE-P302); Preparatory Phase - Professional Use of General surface cleaning products; Kitchen cleaner; Manual process (AISE-P303); Preparatory Phase - Professional Use of General surface cleaning products; Kitchen cleaner; Spray and wipe manual process (AISE-P304); Preparatory Phase - Professional Use of General surface cleaning products; Sanitary cleaner; Manual process (AISE-P305); Preparatory Phase - Professional Use of General surface cleaning products; Sanitary cleaner; Spray and wipe manual process (AISE-P306); Preparatory Phase - Professional Use of General surface cleaning products; Glass cleaner; Manual process (AISE-P312); Preparatory Phase - Professional Use of Floor care products; Floor cleaner; Semi-Automatic process (AISE-P401); Preparatory Phase - Professional Use of Floor care products; Floor cleaner; Spray and wipe manual process (AISE-P402); Preparatory Phase - Professional Use of Floor care products; Carpet cleaner; Manual process (AISE-P409); Preparatory Phase - Professional Use of Floor care products; Carpet cleaner; Semi-Automatic process (AISE-P410); Preparatory Phase - Professional Use of pharmacos products; Animal care; Manual process (AISE-P808); Preparatory Phase - Professional Use of Medical Devices; Medical devices ; Spray and wipe process (AISE-P1104); Preparatory Phase	PROC 8a
CS 10: Professional Use of Vehicle cleaning Products; Car wash product; Semi-Automatic process (AISE-P701); Preparatory Phase - Professional Use of Vehicle cleaning Products; Car wash product; Spray - Manual process (AISE-P702); Preparatory Phase - Professional Use of Vehicle cleaning Products; Dewaxing product; Semi-Automatic process (AISE-P704); Preparatory Phase - Professional Use of Laundry products ; Laundry detergent; Manual process (AISE-P103); Preparatory Phase - Professional Use of General surface cleaning products; Descaling agent; Spray and rinse manual process (AISE-P308); Preparatory	PROC 8a

Phase - Professional Use of General surface cleaning products; Surface disinfectant; Manual process (AISE-P314); Preparatory Phase - Professional Use of General surface cleaning products; Surface disinfectant; Spray and rinse manual process (AISE-P315); Preparatory Phase - Professional Use of Floor care products; Floor stripper; Manual process (AISE-P404); Preparatory Phase - Professional Use of Floor care products; Floor stripper; Semi-Automatic process (AISE-P405); Preparatory Phase - Professional Use of Medical Devices; Medical devices ; Manual process (AISE-P1103); Preparatory Phase	
CS 11: Professional Use of Vehicle cleaning Products; Car wash product; Spray and Wipe manual process (AISE-P703); Preparatory Phase - Professional Use of Vehicle cleaning Products; Boat cleaner; Manual process (AISE-P705); Preparatory Phase - Professional Use of Vehicle cleaning Products; Boat cleaner; Spray and wipe manual process (AISE-P706); Preparatory Phase	PROC 8a
CS 12: Professional Use of Dishwash products; Dishwash and rinse aid product; Automatic process (AISE-P202); Preparatory Phase	PROC 8b
CS 13: Professional Use of General surface cleaning products; Oven/Grill Cleaner; Manual process (AISE-P310); Use Phase	PROC 10
CS 14: Professional Use of Laundry products ; Laundry detergent; Manual process (AISE-P103); Use Phase - Professional Use of Dishwash products; Dishwash product; Manual process (AISE-P201); Use Phase - Professional Use of General surface cleaning products; Wet wipes; Manual process (AISE-P317); Use Phase - Professional Use of Floor care products; Carpet pre-spotters; Brush manual process (AISE-P411); Use Phase	PROC 10
CS 15: Professional Use of General surface cleaning products; Descaling agent; Manual process (AISE-P307); Use Phase	PROC 10
CS 16: Professional Use of Floor care products; Floor cleaner; Manual process (AISE-P403); Use Phase - Professional Use of Laundry products ; Prespotter/Stain remover; Manual process (AISE-P113); Use Phase - Professional Use of General surface cleaning products; General purpose cleaner; Manual process (AISE-P301); Use Phase - Professional Use of General surface cleaning products; General purpose cleaner; Wipe; manual process (AISE-P302); Use Phase - Professional Use of General surface cleaning products; Kitchen cleaner; Manual process (AISE-P303); Use Phase - Professional Use of General surface cleaning products; Kitchen cleaner; Wipe manual process (AISE-P304); Use Phase - Professional Use of General surface cleaning products; Sanitary cleaner; Manual process (AISE-P305); Use Phase	PROC 10
CS 17: Professional Use of General surface cleaning products; Sanitary cleaner; Wipe manual process (AISE-P306); Use Phase - Professional Use of General	PROC 10

surface cleaning products; Glass cleaner; Manual process (AISE-P312); Use Phase - Professional Use of General surface cleaning products; Glass cleaner ; Wipe manual process (AISE-P313); Use Phase - Professional Use of General surface cleaning products; Surface disinfectant; Manual process (AISE-P314); Use Phase - Professional Use of General surface cleaning products; Surface disinfectant; Rinse manual process (AISE-P315); Use Phase - Professional Use of General surface cleaning products; Metal cleaning agent (including silver and copper polishes); Manual process (AISE-P316); Use Phase - Professional Use of Floor care products; Floor cleaner; Semi-Automatic process (AISE-P401); Use Phase - Professional Use of Floor care products; Floor cleaner; Wipe manual process (AISE-P402); Use Phase - Professional Use of Floor care products; Floor stripper; Semi-Automatic process (AISE-P405); Use Phase - Professional Use of Floor care products; Carpet cleaner; Manual process (AISE-P409); Use Phase - Professional Use of Floor care products; Carpet cleaner; Semi-Automatic process (AISE-P410); Use Phase - Professional Use of pharmacos products; Animal care; Manual process (AISE-P808); Use Phase - Professional Use of Medical Devices; Medical devices ; Manual process (AISE-P1103); Use Phase - Professional Use of Medical Devices; Medical devices ; Wipe process (AISE-P1104); Use Phase	
CS 18: Professional Use of General surface cleaning products; Descaling agent; Rinse manual process (AISE-P308); Use Phase - Professional Use of General surface cleaning products; Oven/Grill Cleaner; Wipe manual process (AISE-P311); Use Phase - Professional Use of Floor care products; Floor stripper; Manual process (AISE-P404); Use Phase	PROC 10
CS 19: Professional Use of Vehicle cleaning Products; Car wash product; Wipe manual process (AISE-P703); Use Phase - Professional Use of Vehicle cleaning Products; Boat cleaner; Manual process (AISE-P705); Use Phase - Professional Use of Vehicle cleaning Products; Boat cleaner; Wipe manual process (AISE-P706); Use Phase	PROC 10
CS 20: Professional Use of Façade/surface Cleaning Products; Façade/surface cleaner; Medium pressure process (AISE-P902); Use Phase	PROC 10
CS 21: Professional Use of Vehicle cleaning Products; Car wash product; Spray - Manual process (AISE-P702); Use Phase - Professional Use of Laundry products ; Prespotter/Stain remover; Manual process (AISE-P113); Use Phase - Professional Use of General surface cleaning products; General purpose cleaner; Spray manual process (AISE-P302); Use Phase - Professional Use of General surface cleaning products; Kitchen cleaner; Spray manual process (AISE-P304); Use Phase - Professional Use of General surface cleaning products; Sanitary cleaner; Spray manual process (AISE-P306); Use Phase - Professional Use of General surface cleaning products; Glass cleaner; Spray manual process (AISE-P313); Use Phase - Professional Use of General surface cleaning products;	PROC 11

Surface disinfectant; Spray manual process (AISE-P315); Use Phase - Professional Use of Floor care products; Floor cleaner; Spray manual process (AISE-P402); Use Phase - Professional Use of Floor care products; Carpet pre-spotters; Spray manual process (AISE-P411); Use Phase - Professional Use of Medical Devices; Medical devices ; Spray process (AISE-P1104); Use Phase	
CS 22: Professional Use of General surface cleaning products; Descaling agent; Spray manual process (AISE-P308); Use Phase - Professional Use of General surface cleaning products; Oven/Grill Cleaner; Spray manual process (AISE-P311); Use Phase	PROC 11
CS 23: Professional Use of Vehicle cleaning Products; Car wash product; Spray manual process (AISE-P703); Use Phase - Professional Use of Vehicle cleaning Products; Boat cleaner; Spray manual process (AISE-P706); Use Phase	PROC 11
CS 24: Professional Use of Façade/surface Cleaning Products; Façade/surface cleaner; Medium pressure process (AISE-P902); Use Phase	PROC 11
CS 25: Professional Use of Façade/surface Cleaning Products; Façade/surface cleaner; High pressure process (AISE-P901); Use Phase	PROC 11
CS 26: Professional Use of Maintenance Products; Drain unblocker; Manual process (AISE-P606); Use Phase - Professional Use of Maintenance Products; Drain cleaner; Manual process (AISE-P607); Use Phase	PROC 13
CS 27: Professional Use of General surface cleaning products; Periodic cleaning by dipping (AISE-P309); Use Phase - Professional Use of Medical Devices; Medical devices ; Dipping process (AISE-P1102); Use Phase	PROC 13

5.2. Conditions of use affecting exposure

5.2.1. Control of environmental exposure: GES4 - Professional end-use of washing and cleaning products (indoor use) (ERC 8d)

Conditions and measures related to treatment of waste (including article waste)
Dispose of waste or used sacks/containers according to local regulations.

5.2.2. Control of worker exposure: Professional Use of Laundry products ; Laundry detergent; Semi automatic process (AISE-P102); Use Phase - Professional Use of Laundry products ; Conditioner (softener/starch); Semi automatic process (AISE-P105); Use Phase - Professional Use of Laundry products ; Laundry aid (gasing); Semi automatic process (AISE-P108); Use Phase - Professional Use of Laundry products ; Laundry aid (non-gasing); Semi automatic process (AISE-P111); Use Phase - Professional Use of Dishwash products; Dishwash product; Semi-Automatic process (AISE-P203); Use Phase - Professional Use of Dishwash products; Rinse aid; Semi-

Automatic process (AISE-P204); Use Phase - Professional Use of Medical Devices; Medical devices ; Semi-automatic process (AISE-P1101); Use Phase (PROC 1)

Product (article) characteristics
Limit the substance content in the product to 1 % .
Amount used (or contained in articles), frequency and duration of use/exposure
Covers daily exposures up to 8 hours.
Technical and organisational conditions and measures
Provide a basic standard of general ventilation (1 to 3 air changes per hour) .
Use in closed process, no likelihood of exposure
Basic (professional) exposure controls assumed.
Other conditions affecting workers exposure
Indoor use
Assumes process temperature up to 40.0 °C

5.2.3. Control of worker exposure: Professional Use of Dishwash products; Dishwash and rinse aid product; Automatic process (AISE-P202); Use Phase (PROC 2)

Product (article) characteristics
Limit the substance content in the product to 1 % .
Amount used (or contained in articles), frequency and duration of use/exposure
Avoid carrying out activities involving exposure for more than 15 minutes.
Technical and organisational conditions and measures
Provide a basic standard of general ventilation (1 to 3 air changes per hour) .
Use in closed, continuous process with occasional controlled exposure
Basic (professional) exposure controls assumed.
Other conditions affecting workers exposure
Indoor use

Assumes process temperature up to 40.0 °C

5.2.4. Control of worker exposure: Professional Use of Laundry products ; Laundry aid (non-gasing); Manual process (AISE-P112); Use Phase (PROC 4)

Product (article) characteristics
Limit the substance content in the product to 1 % .
Amount used (or contained in articles), frequency and duration of use/exposure
Avoid carrying out activities involving exposure for more than 15 minutes.
Technical and organisational conditions and measures
Provide a basic standard of general ventilation (1 to 3 air changes per hour) .
Use in semi-closed process with opportunity for exposure
Basic (professional) exposure controls assumed.
Conditions and measures related to personal protection, hygiene and health evaluation
Wear suitable gloves tested to EN374.
Other conditions affecting workers exposure
Indoor use
Assumes process temperature up to 40.0 °C

5.2.5. Control of worker exposure: Professional Use of Vehicle cleaning Products; Car wash product; Semi-Automatic process (AISE-P701); Use Phase - Professional Use of Vehicle cleaning Products; Dewaxing product; Semi-Automatic process (AISE-P704); Use Phase (PROC 4)

Product (article) characteristics
Limit the substance content in the product to 1 % .
Amount used (or contained in articles), frequency and duration of use/exposure
Covers daily exposures up to 8 hours.
Technical and organisational conditions and measures
Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour) .

Use in semi-closed process with opportunity for exposure
Basic (professional) exposure controls assumed.
Conditions and measures related to personal protection, hygiene and health evaluation
Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.; For further specification, refer to section 8 of the SDS.
Wear a respirator providing a minimum efficiency of 90.0 %; For further specification, refer to section 8 of the SDS.
Other conditions affecting workers exposure
Indoor use
Assumes process temperature up to 40.0 °C

5.2.6. Control of worker exposure: Professional Use of Laundry products ; Laundry detergent; Semi automatic process (AISE-P102); Preparatory Phase - Professional Use of Laundry products ; Conditioner (softener/starch); Semi automatic process (AISE-P105); Preparatory Phase - Professional Use of Laundry products ; Laundry aid (gasing); Semi automatic process (AISE-P108); Preparatory Phase - Professional Use of Laundry products ; Laundry aid (non-gasing); Semi automatic process (AISE-P111); Preparatory Phase - Professional Use of Laundry products ; Laundry aid (non-gasing); Manual process (AISE-P112); Preparatory Phase - Professional Use of Dishwash products; Dishwash product; Semi-Automatic process (AISE-P203); Preparatory Phase - Professional Use of Dishwash products; Rinse aid; Semi-Automatic process (AISE-P204); Preparatory Phase - Professional Use of General surface cleaning products; Periodic cleaning by dipping (AISE-P309); Preparatory Phase - Professional Use of Medical Devices; Medical devices ; Semi-automatic process (AISE-P1101); Preparatory Phase - Professional Use of Medical Devices; Medical devices ; Dipping process (AISE-P1102); Preparatory Phase (PROC 8a)

Product (article) characteristics
Limit the substance content in the product to 1 % .
Amount used (or contained in articles), frequency and duration of use/exposure
Avoid carrying out activities involving exposure for more than 15 minutes.
Technical and organisational conditions and measures
Provide a basic standard of general ventilation (1 to 3 air changes per hour) .
Basic (professional) exposure controls assumed.

Conditions and measures related to personal protection, hygiene and health evaluation
Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.; For further specification, refer to section 8 of the SDS.
Wear a respirator providing a minimum efficiency of 90.0 %; For further specification, refer to section 8 of the SDS.
Other conditions affecting workers exposure
Indoor use
Assumes process temperature up to 40.0 °C

5.2.7. Control of worker exposure: Professional Use of Façade/surface Cleaning Products; Façade/surface cleaner; High pressure process (AISE-P901); Preparatory Phase - Professional Use of Façade/surface Cleaning Products; Façade/surface cleaner; Medium pressure process (AISE-P902); Preparatory Phase (PROC 8a)

Product (article) characteristics
Limit the substance content in the product to 1 % .
Amount used (or contained in articles), frequency and duration of use/exposure
Avoid carrying out activities involving exposure for more than 15 minutes.
Technical and organisational conditions and measures
Provide a basic standard of general ventilation (1 to 3 air changes per hour) .
Basic (professional) exposure controls assumed.
Conditions and measures related to personal protection, hygiene and health evaluation
Wear suitable gloves tested to EN374.
Wear a respirator providing a minimum efficiency of 90.0 %; For further specification, refer to section 8 of the SDS.
Other conditions affecting workers exposure
Indoor use
Assumes process temperature up to 40.0 °C

5.2.8. Control of worker exposure: Professional Use of Dishwash products; Dishwash product; Manual process (AISE-P201); Preparatory Phase (PROC 8a)

Product (article) characteristics
Limit the substance content in the product to 1 % .
Amount used (or contained in articles), frequency and duration of use/exposure
Avoid carrying out activities involving exposure for more than 15 minutes.
Technical and organisational conditions and measures
Provide a basic standard of general ventilation (1 to 3 air changes per hour) .
Basic (professional) exposure controls assumed.
Conditions and measures related to personal protection, hygiene and health evaluation
Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.; For further specification, refer to section 8 of the SDS.
Wear a respirator providing a minimum efficiency of 90.0 %; For further specification, refer to section 8 of the SDS.
Other conditions affecting workers exposure
Indoor use
Assumes process temperature up to 40.0 °C

5.2.9. Control of worker exposure: Professional Use of Floor care products; Floor cleaner; Manual process (AISE-P403); Preparatory Phase - Professional Use of General surface cleaning products; General purpose cleaner; Manual process (AISE-P301); Preparatory Phase - Professional Use of General surface cleaning products; General purpose cleaner; Spray and wipe; manual process (AISE-P302); Preparatory Phase - Professional Use of General surface cleaning products; Kitchen cleaner; Manual process (AISE-P303); Preparatory Phase - Professional Use of General surface cleaning products; Kitchen cleaner; Spray and wipe manual process (AISE-P304); Preparatory Phase - Professional Use of General surface cleaning products; Sanitary cleaner; Manual process (AISE-P305); Preparatory Phase - Professional Use of General surface cleaning products; Sanitary cleaner; Spray and wipe manual process (AISE-P306); Preparatory Phase - Professional Use of General surface cleaning products; Glass cleaner; Manual process (AISE-P312); Preparatory Phase - Professional Use of Floor care products; Floor cleaner; Semi-Automatic process (AISE-P401); Preparatory Phase - Professional Use of Floor care products; Floor cleaner; Spray and wipe manual process (AISE-P402); Preparatory Phase - Professional Use of Floor care products; Carpet cleaner; Manual process (AISE-P409); Preparatory Phase - Professional Use of

Floor care products; Carpet cleaner; Semi-Automatic process (AISE-P410); Preparatory Phase - Professional Use of pharmacos products; Animal care; Manual process (AISE-P808); Preparatory Phase - Professional Use of Medical Devices; Medical devices ; Spray and wipe process (AISE-P1104); Preparatory Phase (PROC 8a)

Product (article) characteristics
Limit the substance content in the product to 1 % .
Amount used (or contained in articles), frequency and duration of use/exposure
Avoid carrying out activities involving exposure for more than 1 hour.
Technical and organisational conditions and measures
Provide a basic standard of general ventilation (1 to 3 air changes per hour) .
Basic (professional) exposure controls assumed.
Conditions and measures related to personal protection, hygiene and health evaluation
Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.; For further specification, refer to section 8 of the SDS.
Wear a respirator providing a minimum efficiency of 90.0 %; For further specification, refer to section 8 of the SDS.
Other conditions affecting workers exposure
Indoor use
Assumes process temperature up to 40.0 °C

5.2.10. Control of worker exposure: Professional Use of Vehicle cleaning Products; Car wash product; Semi-Automatic process (AISE-P701); Preparatory Phase - Professional Use of Vehicle cleaning Products; Car wash product; Spray - Manual process (AISE-P702); Preparatory Phase - Professional Use of Vehicle cleaning Products; Dewaxing product; Semi-Automatic process (AISE-P704); Preparatory Phase - Professional Use of Laundry products ; Laundry detergent; Manual process (AISE-P103); Preparatory Phase - Professional Use of General surface cleaning products; Descaling agent; Spray and rinse manual process (AISE-P308); Preparatory Phase - Professional Use of General surface cleaning products; Surface disinfectant; Manual process (AISE-P314); Preparatory Phase - Professional Use of General surface cleaning products; Surface disinfectant; Spray and rinse manual process (AISE-P315); Preparatory Phase - Professional Use of Floor care products; Floor stripper; Manual process (AISE-P404); Preparatory Phase - Professional Use of Floor care products; Floor stripper; Semi-Automatic process (AISE-P405); Preparatory Phase - Professional Use of Medical Devices; Medical devices ; Manual process (AISE-P1103); Preparatory Phase (PROC

8a)

Product (article) characteristics
Limit the substance content in the product to 1 % .
Amount used (or contained in articles), frequency and duration of use/exposure
Avoid carrying out activities involving exposure for more than 1 hour.
Technical and organisational conditions and measures
Provide a basic standard of general ventilation (1 to 3 air changes per hour) .
Basic (professional) exposure controls assumed.
Conditions and measures related to personal protection, hygiene and health evaluation
Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.; For further specification, refer to section 8 of the SDS.
Wear a respirator providing a minimum efficiency of 90.0 %; For further specification, refer to section 8 of the SDS.
Other conditions affecting workers exposure
Indoor use
Assumes process temperature up to 40.0 °C

5.2.11. Control of worker exposure: Professional Use of Vehicle cleaning Products; Car wash product; Spray and Wipe manual process (AISE-P703); Preparatory Phase - Professional Use of Vehicle cleaning Products; Boat cleaner; Manual process (AISE-P705); Preparatory Phase - Professional Use of Vehicle cleaning Products; Boat cleaner; Spray and wipe manual process (AISE-P706); Preparatory Phase (PROC 8a)

Product (article) characteristics
Limit the substance content in the product to 1 % .
Amount used (or contained in articles), frequency and duration of use/exposure
Avoid carrying out activities involving exposure for more than 1 hour.
Technical and organisational conditions and measures
Basic (professional) exposure controls assumed.

Conditions and measures related to personal protection, hygiene and health evaluation
Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.; For further specification, refer to section 8 of the SDS.
Wear a respirator providing a minimum efficiency of 90.0 %; For further specification, refer to section 8 of the SDS.
Other conditions affecting workers exposure
Ensure operation is undertaken outdoors.
Assumes process temperature up to 40.0 °C

5.2.12. Control of worker exposure: Professional Use of Dishwash products; Dishwash and rinse aid product; Automatic process (AISE-P202); Preparatory Phase (PROC 8b)

Product (article) characteristics
Limit the substance content in the product to 1 % .
Amount used (or contained in articles), frequency and duration of use/exposure
Avoid carrying out activities involving exposure for more than 15 minutes.
Technical and organisational conditions and measures
Provide a basic standard of general ventilation (1 to 3 air changes per hour) .
Use in semi-closed process with opportunity for exposure
Basic (professional) exposure controls assumed.
Conditions and measures related to personal protection, hygiene and health evaluation
Wear suitable gloves tested to EN374.
Other conditions affecting workers exposure
Indoor use
Assumes process temperature up to 40.0 °C

5.2.13. Control of worker exposure: Professional Use of General surface cleaning products; Oven/Grill Cleaner; Manual process (AISE-P310); Use Phase (PROC 10)

Product (article) characteristics
Limit the substance content in the product to 1 % .
Amount used (or contained in articles), frequency and duration of use/exposure
Avoid carrying out activities involving exposure for more than 1 hour.
Technical and organisational conditions and measures
Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour) .
Basic (professional) exposure controls assumed.
Conditions and measures related to personal protection, hygiene and health evaluation
Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.; For further specification, refer to section 8 of the SDS.
Wear a respirator providing a minimum efficiency of 90.0 %; For further specification, refer to section 8 of the SDS.
Other conditions affecting workers exposure
Indoor use
Assumes process temperature up to 40.0 °C

5.2.14. Control of worker exposure: Professional Use of Laundry products ; Laundry detergent; Manual process (AISE-P103); Use Phase - Professional Use of Dishwash products; Dishwash product; Manual process (AISE-P201); Use Phase - Professional Use of General surface cleaning products; Wet wipes; Manual process (AISE-P317); Use Phase - Professional Use of Floor care products; Carpet pre-spotters; Brush manual process (AISE-P411); Use Phase (PROC 10)

Product (article) characteristics
Limit the substance content in the product to 1 % .
Amount used (or contained in articles), frequency and duration of use/exposure
Avoid carrying out activities involving exposure for more than 1 hour.
Technical and organisational conditions and measures
Provide a basic standard of general ventilation (1 to 3 air changes per hour) .

Basic (professional) exposure controls assumed.
Conditions and measures related to personal protection, hygiene and health evaluation
Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.; For further specification, refer to section 8 of the SDS.
Wear a respirator providing a minimum efficiency of 90.0 %; For further specification, refer to section 8 of the SDS.
Other conditions affecting workers exposure
Indoor use
Assumes process temperature up to 40.0 °C

5.2.15. Control of worker exposure: Professional Use of General surface cleaning products; Descaling agent; Manual process (AISE-P307); Use Phase (PROC 10)

Product (article) characteristics
Limit the substance content in the product to 1 % .
Amount used (or contained in articles), frequency and duration of use/exposure
Avoid carrying out activities involving exposure for more than 1 hour.
Technical and organisational conditions and measures
Provide a basic standard of general ventilation (1 to 3 air changes per hour) .
Basic (professional) exposure controls assumed.
Conditions and measures related to personal protection, hygiene and health evaluation
Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.; For further specification, refer to section 8 of the SDS.
Wear a respirator providing a minimum efficiency of 90.0 %; For further specification, refer to section 8 of the SDS.
Other conditions affecting workers exposure
Indoor use
Assumes process temperature up to 40.0 °C

5.2.16. Control of worker exposure: Professional Use of Floor care products; Floor cleaner; Manual process (AISE-P403); Use Phase - Professional Use of Laundry products ; Prespotter/Stain remover; Manual process (AISE-P113); Use Phase - Professional Use of General surface cleaning products; General purpose cleaner; Manual process (AISE-P301); Use Phase - Professional Use of General surface cleaning products; General purpose cleaner; Wipe; manual process (AISE-P302); Use Phase - Professional Use of General surface cleaning products; Kitchen cleaner; Manual process (AISE-P303); Use Phase - Professional Use of General surface cleaning products; Kitchen cleaner; Wipe manual process (AISE-P304); Use Phase - Professional Use of General surface cleaning products; Sanitary cleaner; Manual process (AISE-P305); Use Phase (PROC 10)

Product (article) characteristics
Limit the substance content in the product to 1 % .
Amount used (or contained in articles), frequency and duration of use/exposure
Avoid carrying out activities involving exposure for more than 4 hours.
Technical and organisational conditions and measures
Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour) .
Basic (professional) exposure controls assumed.
Conditions and measures related to personal protection, hygiene and health evaluation
Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.; For further specification, refer to section 8 of the SDS.
Wear a respirator providing a minimum efficiency of 90.0 %; For further specification, refer to section 8 of the SDS.
Other conditions affecting workers exposure
Indoor use
Assumes process temperature up to 40.0 °C

5.2.17. Control of worker exposure: Professional Use of General surface cleaning products; Sanitary cleaner; Wipe manual process (AISE-P306); Use Phase - Professional Use of General surface cleaning products; Glass cleaner; Manual process (AISE-P312); Use Phase - Professional Use of General surface cleaning products; Glass cleaner ; Wipe manual process (AISE-P313); Use Phase - Professional Use of General surface cleaning products; Surface disinfectant; Manual process (AISE-P314); Use Phase - Professional Use of General surface cleaning products; Surface disinfectant; Rinse manual process (AISE-P315); Use Phase - Professional Use of General surface cleaning products; Metal

cleaning agent (including silver and copper polishes); Manual process (AISE-P316); Use Phase - Professional Use of Floor care products; Floor cleaner; Semi-Automatic process (AISE-P401); Use Phase - Professional Use of Floor care products; Floor cleaner; Wipe manual process (AISE-P402); Use Phase - Professional Use of Floor care products; Floor stripper; Semi-Automatic process (AISE-P405); Use Phase - Professional Use of Floor care products; Carpet cleaner; Manual process (AISE-P409); Use Phase - Professional Use of Floor care products; Carpet cleaner; Semi-Automatic process (AISE-P410); Use Phase - Professional Use of pharmacos products; Animal care; Manual process (AISE-P808); Use Phase - Professional Use of Medical Devices; Medical devices ; Manual process (AISE-P1103); Use Phase - Professional Use of Medical Devices; Medical devices ; Wipe process (AISE-P1104); Use Phase (PROC 10)

Product (article) characteristics
Limit the substance content in the product to 1 % .
Amount used (or contained in articles), frequency and duration of use/exposure
Avoid carrying out activities involving exposure for more than 4 hours.
Technical and organisational conditions and measures
Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour) .
Basic (professional) exposure controls assumed.
Conditions and measures related to personal protection, hygiene and health evaluation
Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.; For further specification, refer to section 8 of the SDS.
Wear a respirator providing a minimum efficiency of 90.0 %; For further specification, refer to section 8 of the SDS.
Other conditions affecting workers exposure
Indoor use
Assumes process temperature up to 40.0 °C

5.2.18. Control of worker exposure: Professional Use of General surface cleaning products; Descaling agent; Rinse manual process (AISE-P308); Use Phase - Professional Use of General surface cleaning products; Oven/Grill Cleaner; Wipe manual process (AISE-P311); Use Phase - Professional Use of Floor care products; Floor stripper; Manual process (AISE-P404); Use Phase (PROC 10)

Product (article) characteristics

Limit the substance content in the product to 1 % .
Amount used (or contained in articles), frequency and duration of use/exposure
Avoid carrying out activities involving exposure for more than 4 hours.
Technical and organisational conditions and measures
Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour) .
Basic (professional) exposure controls assumed.
Conditions and measures related to personal protection, hygiene and health evaluation
Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.; For further specification, refer to section 8 of the SDS.
Wear a respirator providing a minimum efficiency of 90.0 %; For further specification, refer to section 8 of the SDS.
Other conditions affecting workers exposure
Indoor use
Assumes process temperature up to 40.0 °C

5.2.19. Control of worker exposure: Professional Use of Vehicle cleaning Products; Car wash product; Wipe manual process (AISE-P703); Use Phase - Professional Use of Vehicle cleaning Products; Boat cleaner; Manual process (AISE-P705); Use Phase - Professional Use of Vehicle cleaning Products; Boat cleaner; Wipe manual process (AISE-P706); Use Phase (PROC 10)

Product (article) characteristics
Limit the substance content in the product to 1 % .
Amount used (or contained in articles), frequency and duration of use/exposure
Avoid carrying out activities involving exposure for more than 4 hours.
Technical and organisational conditions and measures
Basic (professional) exposure controls assumed.
Conditions and measures related to personal protection, hygiene and health evaluation

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.; For further specification, refer to section 8 of the SDS.
Wear a respirator providing a minimum efficiency of 90.0 %; For further specification, refer to section 8 of the SDS.
Other conditions affecting workers exposure
Ensure operation is undertaken outdoors.
Assumes process temperature up to 40.0 °C

5.2.20. Control of worker exposure: Professional Use of Façade/surface Cleaning Products; Façade/surface cleaner; Medium pressure process (AISE-P902); Use Phase (PROC 10)

Product (article) characteristics
Limit the substance content in the product to 1 % .
Amount used (or contained in articles), frequency and duration of use/exposure
Avoid carrying out activities involving exposure for more than 4 hours.
Technical and organisational conditions and measures
Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour) .
Basic (professional) exposure controls assumed.
Conditions and measures related to personal protection, hygiene and health evaluation
Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.; For further specification, refer to section 8 of the SDS.
Wear a respirator providing a minimum efficiency of 90.0 %; For further specification, refer to section 8 of the SDS.
Other conditions affecting workers exposure
Indoor use
Assumes process temperature up to 40.0 °C

5.2.21. Control of worker exposure: Professional Use of Vehicle cleaning Products; Car wash product; Spray - Manual process (AISE-P702); Use Phase - Professional Use of

Laundry products ; Prespotter/Stain remover; Manual process (AISE-P113); Use Phase - Professional Use of General surface cleaning products; General purpose cleaner; Spray manual process (AISE-P302); Use Phase - Professional Use of General surface cleaning products; Kitchen cleaner; Spray manual process (AISE-P304); Use Phase - Professional Use of General surface cleaning products; Sanitary cleaner; Spray manual process (AISE-P306); Use Phase - Professional Use of General surface cleaning products; Glass cleaner; Spray manual process (AISE-P313); Use Phase - Professional Use of General surface cleaning products; Surface disinfectant; Spray manual process (AISE-P315); Use Phase - Professional Use of Floor care products; Floor cleaner; Spray manual process (AISE-P402); Use Phase - Professional Use of Floor care products; Carpet pre-spotters; Spray manual process (AISE-P411); Use Phase - Professional Use of Medical Devices; Medical devices ; Spray process (AISE-P1104); Use Phase (PROC 11)

Product (article) characteristics
Limit the substance content in the product to 1 % .
Amount used (or contained in articles), frequency and duration of use/exposure
Avoid carrying out activities involving exposure for more than 1 hour.
Technical and organisational conditions and measures
Provide a basic standard of general ventilation (1 to 3 air changes per hour) .
Local exhaust ventilation - efficiency of at least 80.0 %
Basic (professional) exposure controls assumed.
Conditions and measures related to personal protection, hygiene and health evaluation
Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.; For further specification, refer to section 8 of the SDS.
Wear a respirator providing a minimum efficiency of 90.0 %; For further specification, refer to section 8 of the SDS.
Other conditions affecting workers exposure
Indoor use
Assumes process temperature up to 40.0 °C

5.2.22. Control of worker exposure: Professional Use of General surface cleaning products; Descaling agent; Spray manual process (AISE-P308); Use Phase - Professional Use of General surface cleaning products; Oven/Grill Cleaner; Spray manual process (AISE-P311); Use Phase (PROC 11)

Product (article) characteristics
Limit the substance content in the product to 1 % .
Amount used (or contained in articles), frequency and duration of use/exposure
Avoid carrying out activities involving exposure for more than 1 hour.
Technical and organisational conditions and measures
Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour) .
Local exhaust ventilation - efficiency of at least 80.0 %
Basic (professional) exposure controls assumed.
Conditions and measures related to personal protection, hygiene and health evaluation
Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.; For further specification, refer to section 8 of the SDS.
Wear a respirator providing a minimum efficiency of 90.0 %; For further specification, refer to section 8 of the SDS.
Other conditions affecting workers exposure
Indoor use
Assumes process temperature up to 40.0 °C

5.2.23. Control of worker exposure: Professional Use of Vehicle cleaning Products; Car wash product; Spray manual process (AISE-P703); Use Phase - Professional Use of Vehicle cleaning Products; Boat cleaner; Spray manual process (AISE-P706); Use Phase (PROC 11)

Product (article) characteristics
Limit the substance content in the product to 1 % .
Amount used (or contained in articles), frequency and duration of use/exposure
Avoid carrying out activities involving exposure for more than 1 hour.
Technical and organisational conditions and measures
Provide a basic standard of general ventilation (1 to 3 air changes per hour) .

Local exhaust ventilation - efficiency of at least 80.0 %
Basic (professional) exposure controls assumed.
Conditions and measures related to personal protection, hygiene and health evaluation
Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.; For further specification, refer to section 8 of the SDS.
Wear a respirator providing a minimum efficiency of 90.0 %; For further specification, refer to section 8 of the SDS.
Other conditions affecting workers exposure
Indoor use
Assumes process temperature up to 40.0 °C

5.2.24. Control of worker exposure: Professional Use of Façade/surface Cleaning Products; Façade/surface cleaner; Medium pressure process (AISE-P902); Use Phase (PROC 11)

Product (article) characteristics
Limit the substance content in the product to 1 % .
Amount used (or contained in articles), frequency and duration of use/exposure
Avoid carrying out activities involving exposure for more than 1 hour.
Technical and organisational conditions and measures
Provide a basic standard of general ventilation (1 to 3 air changes per hour) .
Local exhaust ventilation - efficiency of at least 80.0 %
Basic (professional) exposure controls assumed.
Conditions and measures related to personal protection, hygiene and health evaluation
Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.; For further specification, refer to section 8 of the SDS.
Wear a respirator providing a minimum efficiency of 90.0 %; For further specification, refer to section 8 of the SDS.

Other conditions affecting workers exposure
Indoor use
Assumes process temperature up to 40.0 °C

5.2.25. Control of worker exposure: Professional Use of Façade/surface Cleaning Products; Façade/surface cleaner; High pressure process (AISE-P901); Use Phase (PROC 11)

Product (article) characteristics
Limit the substance content in the product to 1 % .
Amount used (or contained in articles), frequency and duration of use/exposure
Avoid carrying out activities involving exposure for more than 4 hours.
Technical and organisational conditions and measures
Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour) .
Local exhaust ventilation - efficiency of at least 80.0 %
Basic (professional) exposure controls assumed.
Conditions and measures related to personal protection, hygiene and health evaluation
Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.; For further specification, refer to section 8 of the SDS.
Wear a respirator providing a minimum efficiency of 90.0 %; For further specification, refer to section 8 of the SDS.
Other conditions affecting workers exposure
Indoor use
Assumes process temperature up to 40.0 °C

5.2.26. Control of worker exposure: Professional Use of Maintenance Products; Drain unblocker; Manual process (AISE-P606); Use Phase - Professional Use of Maintenance Products; Drain cleaner; Manual process (AISE-P607); Use Phase (PROC 13)

Product (article) characteristics

Limit the substance content in the product to 1 % .
Amount used (or contained in articles), frequency and duration of use/exposure
Avoid carrying out activities involving exposure for more than 15 minutes.
Technical and organisational conditions and measures
Provide a basic standard of general ventilation (1 to 3 air changes per hour) .
Basic (professional) exposure controls assumed.
Conditions and measures related to personal protection, hygiene and health evaluation
Wear suitable gloves tested to EN374.
Other conditions affecting workers exposure
Indoor use
Assumes process temperature up to 40.0 °C

5.2.27. Control of worker exposure: Professional Use of General surface cleaning products; Periodic cleaning by dipping (AISE-P309); Use Phase - Professional Use of Medical Devices; Medical devices ; Dipping process (AISE-P1102); Use Phase (PROC 13)

Product (article) characteristics
Limit the substance content in the product to 1 % .
Amount used (or contained in articles), frequency and duration of use/exposure
Avoid carrying out activities involving exposure for more than 1 hour.
Technical and organisational conditions and measures
Provide a basic standard of general ventilation (1 to 3 air changes per hour) .
Local exhaust ventilation - efficiency of at least 80.0 %
Basic (professional) exposure controls assumed.
Conditions and measures related to personal protection, hygiene and health evaluation
Wear suitable gloves tested to EN374.

Other conditions affecting workers exposure
Indoor use
Assumes process temperature up to 40.0 °C

5.3. Exposure estimation and reference to its source

5.3.1. Environmental release and exposure: GES4 - Professional end-use of washing and cleaning products (indoor use) (ERC 8d)

Release route	Release rate	Release estimation method
Water	0.02 kg/day	ERC based
Air	0.02 kg/day	ERC based
Soil	0.004 kg/day	ERC based

Protection target	Exposure estimate (based on: EUSES 2.1.2)	RCR
Freshwater	2.247E-4 mg/L	0.11
Sediment (freshwater)	0.007 mg/kg dw	0.01
Marine water	2.106E-5 mg/L	0.103
Sediment (marine water)	6.241E-4 mg/kg dw	< 0.01
Predator (freshwater)	0.142 mg/kg ww	< 0.01
Predator (marine water)	0.013 mg/kg ww	< 0.01
Top predator (marine water)	0.009 mg/kg ww	< 0.01
Sewage treatment plant	0.001 mg/L	< 0.01
Agricultural soil	6.878E-4 mg/kg dw	< 0.01
Predator (terrestrial)	1.886E-4 mg/kg ww	< 0.01
Man via environment - Inhalation	7.491E-6 mg/m³	< 0.01
Man via environment - Oral	3.233E-4 mg/kg bw/day	< 0.01

5.3.2. Worker exposure: Professional Use of Laundry products ; Laundry detergent; Semi automatic process (AISE-P102); Use Phase - Professional Use of Laundry products ; Conditioner (softener/starch); Semi automatic process (AISE-P105); Use Phase - Professional Use of Laundry products ; Laundry aid (gasing); Semi automatic process (AISE-P108); Use Phase - Professional Use of Laundry products ; Laundry aid (non-gasing); Semi automatic process (AISE-P111); Use Phase - Professional Use of Dishwash products; Dishwash product; Semi-Automatic process (AISE-P203); Use Phase - Professional Use of Dishwash products; Rinse aid; Semi-Automatic process (AISE-P204); Use Phase - Professional Use of Medical Devices; Medical devices ; Semi-automatic process (AISE-P1101); Use Phase (PROC 1)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, systemic, long-term	0.006 mg/m³ (TRA Workers 3.0)	< 0.01
Dermal, systemic, long-term	0.003 mg/kg bw/day (TRA Workers 3.0)	< 0.01
Combined routes, systemic, long-term		< 0.01

5.3.3. Worker exposure: Professional Use of Dishwash products; Dishwash and rinse aid product; Automatic process (AISE-P202); Use Phase (PROC 2)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, systemic, long-term	0.321 mg/m³ (TRA Workers 3.0)	0.091
Dermal, systemic, long-term	0.137 mg/kg bw/day (TRA Workers 3.0)	0.137
Combined routes, systemic, long-term		0.228

5.3.4. Worker exposure: Professional Use of Laundry products ; Laundry aid (non-gasing); Manual process (AISE-P112); Use Phase (PROC 4)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, systemic, long-term	0.643 mg/m³ (TRA Workers 3.0)	0.183
Dermal, systemic, long-term	0.137 mg/kg bw/day (TRA Workers 3.0)	0.137
Combined routes, systemic, long-term		0.32

5.3.5. Worker exposure: Professional Use of Vehicle cleaning Products; Car wash product; Semi-Automatic process (AISE-P701); Use Phase - Professional Use of Vehicle cleaning Products; Dewaxing product; Semi-Automatic process (AISE-P704); Use Phase (PROC 4)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, systemic, long-term	0.45 mg/m³ (TRA Workers 3.0)	0.128
Dermal, systemic, long-term	0.069 mg/kg bw/day (TRA Workers 3.0)	0.069
Combined routes, systemic, long-term		0.196

5.3.6. Worker exposure: Professional Use of Laundry products ; Laundry detergent; Semi automatic process (AISE-P102); Preparatory Phase - Professional Use of Laundry products ; Conditioner (softener/starch); Semi automatic process (AISE-P105); Preparatory Phase - Professional Use of Laundry products ; Laundry aid (gasing); Semi automatic process (AISE-P108); Preparatory Phase - Professional Use of Laundry products ; Laundry aid (non-gasing); Semi automatic process (AISE-P111); Preparatory Phase - Professional Use of Laundry products ; Laundry aid (non-gasing); Manual process (AISE-P112); Preparatory Phase - Professional Use of Dishwash products; Dishwash product; Semi-Automatic process (AISE-P203); Preparatory Phase - Professional Use of Dishwash products; Rinse aid; Semi-Automatic process (AISE-P204); Preparatory Phase - Professional Use of General surface cleaning products; Periodic cleaning by dipping (AISE-P309); Preparatory Phase - Professional Use of Medical Devices; Medical devices ; Semi-automatic process (AISE-P1101); Preparatory Phase - Professional Use of Medical Devices; Medical devices ; Dipping process (AISE-P1102); Preparatory Phase (PROC 8a)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, systemic, long-term	0.161 mg/m³ (TRA Workers 3.0)	0.046
Dermal, systemic, long-term	0.137 mg/kg bw/day (TRA Workers 3.0)	0.137
Combined routes, systemic, long-term		0.183

5.3.7. Worker exposure: Professional Use of Façade/surface Cleaning Products; Façade/surface cleaner; High pressure process (AISE-P901); Preparatory Phase - Professional Use of Façade/surface Cleaning Products; Façade/surface cleaner; Medium pressure process (AISE-P902); Preparatory Phase (PROC 8a)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, systemic, long-term	0.161 mg/m³ (TRA Workers 3.0)	0.046
Dermal, systemic, long-term	0.274 mg/kg bw/day (TRA Workers 3.0)	0.274
Combined routes, systemic, long-term		0.32

5.3.8. Worker exposure: Professional Use of Dishwash products; Dishwash product; Manual process (AISE-P201); Preparatory Phase (PROC 8a)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, systemic, long-term	0.161 mg/m³ (TRA Workers 3.0)	0.046
Dermal, systemic, long-term	0.137 mg/kg bw/day (TRA Workers 3.0)	0.137
Combined routes, systemic, long-term		0.183

5.3.9. Worker exposure: Professional Use of Floor care products; Floor cleaner; Manual process (AISE-P403); Preparatory Phase - Professional Use of General surface cleaning products; General purpose cleaner; Manual process (AISE-P301); Preparatory Phase - Professional Use of General surface cleaning products; General purpose cleaner; Spray and wipe; manual process (AISE-P302); Preparatory Phase - Professional Use of General surface cleaning products; Kitchen cleaner; Manual process (AISE-P303); Preparatory Phase - Professional Use of General surface cleaning products; Kitchen cleaner; Spray and wipe manual process (AISE-P304); Preparatory Phase - Professional Use of General surface cleaning products; Sanitary cleaner; Manual process (AISE-P305); Preparatory Phase - Professional Use of General surface cleaning products; Sanitary cleaner; Spray and wipe manual process (AISE-P306); Preparatory Phase - Professional Use of General surface cleaning products; Glass cleaner; Manual process (AISE-P312); Preparatory Phase - Professional Use of Floor care products; Floor cleaner; Semi-Automatic process (AISE-P401); Preparatory Phase - Professional Use of Floor care products; Floor cleaner; Spray and wipe manual process (AISE-P402); Preparatory Phase - Professional Use of Floor care products; Carpet cleaner; Manual process (AISE-P409); Preparatory Phase - Professional Use of Floor care products; Carpet cleaner; Semi-Automatic process (AISE-P410); Preparatory Phase - Professional Use of pharmacos products; Animal care; Manual process (AISE-P808); Preparatory Phase - Professional Use of Medical Devices; Medical devices ; Spray and wipe process (AISE-P1104); Preparatory Phase (PROC 8a)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, systemic, long-term	0.321 mg/m³ (TRA Workers 3.0)	0.091
Dermal, systemic, long-term	0.137 mg/kg bw/day (TRA Workers 3.0)	0.137
Combined routes, systemic, long-term		0.228

5.3.10. Worker exposure: Professional Use of Vehicle cleaning Products; Car wash product; Semi-Automatic process (AISE-P701); Preparatory Phase - Professional Use of Vehicle cleaning Products; Car wash product; Spray - Manual process (AISE-P702); Preparatory Phase - Professional Use of Vehicle cleaning Products; Dewaxing product; Semi-Automatic process (AISE-P704); Preparatory Phase - Professional Use of Laundry products ; Laundry detergent; Manual process (AISE-P103); Preparatory Phase - Professional Use of General surface cleaning products; Descaling agent; Spray and rinse manual process (AISE-P308); Preparatory Phase - Professional Use of General surface cleaning products; Surface disinfectant; Manual process (AISE-P314); Preparatory Phase - Professional Use of General surface cleaning products; Surface disinfectant;

Spray and rinse manual process (AISE-P315); Preparatory Phase - Professional Use of Floor care products; Floor stripper; Manual process (AISE-P404); Preparatory Phase - Professional Use of Floor care products; Floor stripper; Semi-Automatic process (AISE-P405); Preparatory Phase - Professional Use of Medical Devices; Medical devices ; Manual process (AISE-P1103); Preparatory Phase (PROC 8a)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, systemic, long-term	0.321 mg/m³ (TRA Workers 3.0)	0.091
Dermal, systemic, long-term	0.137 mg/kg bw/day (TRA Workers 3.0)	0.137
Combined routes, systemic, long-term		0.228

5.3.11. Worker exposure: Professional Use of Vehicle cleaning Products; Car wash product; Spray and Wipe manual process (AISE-P703); Preparatory Phase - Professional Use of Vehicle cleaning Products; Boat cleaner; Manual process (AISE-P705); Preparatory Phase - Professional Use of Vehicle cleaning Products; Boat cleaner; Spray and wipe manual process (AISE-P706); Preparatory Phase (PROC 8a)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, systemic, long-term	0.225 mg/m³ (TRA Workers 3.0)	0.064
Dermal, systemic, long-term	0.137 mg/kg bw/day (TRA Workers 3.0)	0.137
Combined routes, systemic, long-term		0.201

5.3.12. Worker exposure: Professional Use of Dishwash products; Dishwash and rinse aid product; Automatic process (AISE-P202); Preparatory Phase (PROC 8b)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, systemic, long-term	0.643 mg/m³ (TRA Workers 3.0)	0.183
Dermal, systemic, long-term	0.274 mg/kg bw/day (TRA Workers 3.0)	0.274
Combined routes, systemic, long-term		0.457

5.3.13. Worker exposure: Professional Use of General surface cleaning products; Oven/Grill Cleaner; Manual process (AISE-P310); Use Phase (PROC 10)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, systemic, long-term	0.225 mg/m³ (TRA Workers 3.0)	0.064
Dermal, systemic, long-term	0.274 mg/kg bw/day (TRA Workers 3.0)	0.274

Route of exposure and type of effects	Exposure estimate	RCR
Combined routes, systemic, long-term		0.338

5.3.14. Worker exposure: Professional Use of Laundry products ; Laundry detergent; Manual process (AISE-P103); Use Phase - Professional Use of Dishwash products; Dishwash product; Manual process (AISE-P201); Use Phase - Professional Use of General surface cleaning products; Wet wipes; Manual process (AISE-P317); Use Phase - Professional Use of Floor care products; Carpet pre-spotters; Brush manual process (AISE-P411); Use Phase (PROC 10)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, systemic, long-term	0.321 mg/m³ (TRA Workers 3.0)	0.091
Dermal, systemic, long-term	0.274 mg/kg bw/day (TRA Workers 3.0)	0.274
Combined routes, systemic, long-term		0.366

5.3.15. Worker exposure: Professional Use of General surface cleaning products; Descaling agent; Manual process (AISE-P307); Use Phase (PROC 10)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, systemic, long-term	0.321 mg/m³ (TRA Workers 3.0)	0.091
Dermal, systemic, long-term	0.274 mg/kg bw/day (TRA Workers 3.0)	0.274
Combined routes, systemic, long-term		0.366

5.3.16. Worker exposure: Professional Use of Floor care products; Floor cleaner; Manual process (AISE-P403); Use Phase - Professional Use of Laundry products ; Prespotter/Stain remover; Manual process (AISE-P113); Use Phase - Professional Use of General surface cleaning products; General purpose cleaner; Manual process (AISE-P301); Use Phase - Professional Use of General surface cleaning products; General purpose cleaner; Wipe; manual process (AISE-P302); Use Phase - Professional Use of General surface cleaning products; Kitchen cleaner; Manual process (AISE-P303); Use Phase - Professional Use of General surface cleaning products; Kitchen cleaner; Wipe manual process (AISE-P304); Use Phase - Professional Use of General surface cleaning products; Sanitary cleaner; Manual process (AISE-P305); Use Phase (PROC 10)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, systemic, long-term	0.675 mg/m³ (TRA Workers 3.0)	0.192
Dermal, systemic, long-term	0.274 mg/kg bw/day (TRA Workers 3.0)	0.274
Combined routes, systemic, long-term		0.466

5.3.17. Worker exposure: Professional Use of General surface cleaning products; Sanitary cleaner; Wipe manual process (AISE-P306); Use Phase - Professional Use of General surface cleaning products; Glass cleaner; Manual process (AISE-P312); Use Phase - Professional Use of General surface cleaning products; Glass cleaner ; Wipe manual process (AISE-P313); Use Phase - Professional Use of General surface cleaning products; Surface disinfectant; Manual process (AISE-P314); Use Phase - Professional Use of General surface cleaning products; Surface disinfectant; Rinse manual process (AISE-P315); Use Phase - Professional Use of General surface cleaning products; Metal cleaning agent (including silver and copper polishes); Manual process (AISE-P316); Use Phase - Professional Use of Floor care products; Floor cleaner; Semi-Automatic process (AISE-P401); Use Phase - Professional Use of Floor care products; Floor cleaner; Wipe manual process (AISE-P402); Use Phase - Professional Use of Floor care products; Floor stripper; Semi-Automatic process (AISE-P405); Use Phase - Professional Use of Floor care products; Carpet cleaner; Manual process (AISE-P409); Use Phase - Professional Use of Floor care products; Carpet cleaner; Semi-Automatic process (AISE-P410); Use Phase - Professional Use of pharmacos products; Animal care; Manual process (AISE-P808); Use Phase - Professional Use of Medical Devices; Medical devices ; Manual process (AISE-P1103); Use Phase - Professional Use of Medical Devices; Medical devices ; Wipe process (AISE-P1104); Use Phase (PROC 10)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, systemic, long-term	0.675 mg/m³ (TRA Workers 3.0)	0.192
Dermal, systemic, long-term	0.274 mg/kg bw/day (TRA Workers 3.0)	0.274
Combined routes, systemic, long-term		0.466

5.3.18. Worker exposure: Professional Use of General surface cleaning products; Descaling agent; Rinse manual process (AISE-P308); Use Phase - Professional Use of General surface cleaning products; Oven/Grill Cleaner; Wipe manual process (AISE-P311); Use Phase - Professional Use of Floor care products; Floor stripper; Manual process (AISE-P404); Use Phase (PROC 10)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, systemic, long-term	0.675 mg/m³ (TRA Workers 3.0)	0.192
Dermal, systemic, long-term	0.274 mg/kg bw/day (TRA Workers 3.0)	0.274
Combined routes, systemic, long-term		0.466

5.3.19. Worker exposure: Professional Use of Vehicle cleaning Products; Car wash product; Wipe manual process (AISE-P703); Use Phase - Professional Use of Vehicle cleaning Products; Boat cleaner; Manual process (AISE-P705); Use Phase - Professional Use of Vehicle cleaning Products; Boat cleaner; Wipe manual process (AISE-P706); Use Phase (PROC 10)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, systemic, long-term	0.675 mg/m³ (TRA Workers 3.0)	0.192
Dermal, systemic, long-term	0.274 mg/kg bw/day (TRA Workers 3.0)	0.274
Combined routes, systemic, long-term		0.466

5.3.20. Worker exposure: Professional Use of Façade/surface Cleaning Products; Façade/surface cleaner; Medium pressure process (AISE-P902); Use Phase (PROC 10)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, systemic, long-term	0.675 mg/m³ (TRA Workers 3.0)	0.192
Dermal, systemic, long-term	0.274 mg/kg bw/day (TRA Workers 3.0)	0.274
Combined routes, systemic, long-term		0.466

5.3.21. Worker exposure: Professional Use of Vehicle cleaning Products; Car wash product; Spray - Manual process (AISE-P702); Use Phase - Professional Use of Laundry products ; Prespotter/Stain remover; Manual process (AISE-P113); Use Phase - Professional Use of General surface cleaning products; General purpose cleaner; Spray manual process (AISE-P302); Use Phase - Professional Use of General surface cleaning products; Kitchen cleaner; Spray manual process (AISE-P304); Use Phase - Professional Use of General surface cleaning products; Sanitary cleaner; Spray manual process (AISE-P306); Use Phase - Professional Use of General surface cleaning products; Glass cleaner; Spray manual process (AISE-P313); Use Phase - Professional Use of General surface cleaning products; Surface disinfectant; Spray manual process (AISE-P315); Use Phase - Professional Use of Floor care products; Floor cleaner; Spray manual process (AISE-P402); Use Phase - Professional Use of Floor care products; Carpet pre-spotters; Spray manual process (AISE-P411); Use Phase - Professional Use of Medical Devices; Medical devices ; Spray process (AISE-P1104); Use Phase (PROC 11)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, systemic, long-term	0.257 mg/m³ (TRA Workers 3.0)	0.073
Dermal, systemic, long-term	0.214 mg/kg bw/day (TRA Workers 3.0)	0.214
Combined routes, systemic, long-term		0.287

5.3.22. Worker exposure: Professional Use of General surface cleaning products; Descaling agent; Spray manual process (AISE-P308); Use Phase - Professional Use of General surface cleaning products; Oven/Grill Cleaner; Spray manual process (AISE-P311); Use Phase (PROC 11)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, systemic, long-term	0.18 mg/m³ (TRA Workers 3.0)	0.051
Dermal, systemic, long-term	0.214 mg/kg bw/day (TRA Workers 3.0)	0.214
Combined routes, systemic, long-term		0.265

5.3.23. Worker exposure: Professional Use of Vehicle cleaning Products; Car wash product; Spray manual process (AISE-P703); Use Phase - Professional Use of Vehicle cleaning Products; Boat cleaner; Spray manual process (AISE-P706); Use Phase (PROC 11)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, systemic, long-term	0.257 mg/m³ (TRA Workers 3.0)	0.073
Dermal, systemic, long-term	0.214 mg/kg bw/day (TRA Workers 3.0)	0.214
Combined routes, systemic, long-term		0.287

5.3.24. Worker exposure: Professional Use of Façade/surface Cleaning Products; Façade/surface cleaner; Medium pressure process (AISE-P902); Use Phase (PROC 11)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, systemic, long-term	0.257 mg/m³ (TRA Workers 3.0)	0.073
Dermal, systemic, long-term	0.214 mg/kg bw/day (TRA Workers 3.0)	0.214
Combined routes, systemic, long-term		0.287

5.3.25. Worker exposure: Professional Use of Façade/surface Cleaning Products; Façade/surface cleaner; High pressure process (AISE-P901); Use Phase (PROC 11)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, systemic, long-term	0.54 mg/m³ (TRA Workers 3.0)	0.153
Dermal, systemic, long-term	0.214 mg/kg bw/day (TRA Workers 3.0)	0.214
Combined routes, systemic, long-term		0.368

5.3.26. Worker exposure: Professional Use of Maintenance Products; Drain unblocker; Manual process (AISE-P606); Use Phase - Professional Use of Maintenance Products; Drain cleaner; Manual process (AISE-P607); Use Phase (PROC 13)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, systemic, long-term	0.643 mg/m³ (TRA Workers 3.0)	0.183
Dermal, systemic, long-term	0.274 mg/kg bw/day (TRA Workers 3.0)	0.274
Combined routes, systemic, long-term		0.457

5.3.27. Worker exposure: Professional Use of General surface cleaning products; Periodic cleaning by dipping (AISE-P309); Use Phase - Professional Use of Medical Devices; Medical devices ; Dipping process (AISE-P1102); Use Phase (PROC 13)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, systemic, long-term	0.257 mg/m³ (TRA Workers 3.0)	0.073
Dermal, systemic, long-term	0.274 mg/kg bw/day (TRA Workers 3.0)	0.274
Combined routes, systemic, long-term		0.347

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

Scaling method
The workers exposure and environmental emissions have been evaluated using TRA Workers 3.0 and EUSES 2.1.2, respectively.
Health
Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures / Operational Conditions outlined in Section 2 are implemented. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.
Environment
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.

6. ES 6: Use by professional worker; GES5 - Professional end-use of polishes and wax blends

6.1. Title section

Environment	
CS 1: GES5 - Professional end-use of polishes and wax blends	ERC 8a
Worker	
CS 2: Professional Use of Maintenance Products; Leather care product; Semi-Automatic process (AISE-P605); Use Phase	PROC 2
CS 3: Professional Use of Maintenance Products; Leather care product; Semi-Automatic process (AISE-P605); Preparatory Phase	PROC 8b
CS 4: Professional Use of Maintenance Products; Wooden Furniture care product; Manual process (AISE-P601); Use Phase - Professional Use of Maintenance Products; Wooden Furniture care product; Wipe manual process (AISE-P602); Use Phase - Professional Use of Maintenance Products; Leather care product; Manual process (AISE-P603); Use Phase - Professional Use of Maintenance Products; Leather care product; Wipe manual process (AISE-P604); Use Phase - Professional Use of Maintenance Products; Stainless steel care; Wipe manual process (AISE-P609); Use Phase	PROC 10
CS 5: Professional Use of Floor care products; Polish / impregnating agent; Manual process (AISE-P406); Use Phase - Professional Use of Floor care products; Polish / impregnating agent; Semi-Automatic process (AISE-P407); Use Phase - Professional Use of Floor care products; Polish / impregnating agent; Wipe manual process (AISE-P408); Use Phase - Professional Use of Maintenance Products; Stainless steel care ; Manual process (AISE-P608); Use Phase	PROC 10
CS 6: Professional Use of Maintenance Products; Wooden Furniture care product; Spray manual process (AISE-P602); Use Phase - Professional Use of Maintenance Products; Leather care product; Spray manual process (AISE-P604); Use Phase - Professional Use of Maintenance Products; Stainless steel care; Spray manual process (AISE-P609); Use Phase	PROC 11
CS 7: Professional Use of Floor care products; Polish / impregnating agent; Spray manual process (AISE-P408); Use Phase	PROC 11

6.2. Conditions of use affecting exposure

6.2.1. Control of environmental exposure: GES5 - Professional end-use of polishes and

wax blends (ERC 8a)

Conditions and measures related to treatment of waste (including article waste)
Dispose of waste or used sacks/containers according to local regulations.

6.2.2. Control of worker exposure: Professional Use of Maintenance Products; Leather care product; Semi-Automatic process (AISE-P605); Use Phase (PROC 2)

Product (article) characteristics
Limit the substance content in the product to 1 % .
Amount used (or contained in articles), frequency and duration of use/exposure
Avoid carrying out activities involving exposure for more than 1 hour.
Technical and organisational conditions and measures
Provide a basic standard of general ventilation (1 to 3 air changes per hour) .
Use in closed, continuous process with occasional controlled exposure
Basic (professional) exposure controls assumed.
Other conditions affecting workers exposure
Indoor use
Assumes process temperature up to 40.0 °C

6.2.3. Control of worker exposure: Professional Use of Maintenance Products; Leather care product; Semi-Automatic process (AISE-P605); Preparatory Phase (PROC 8b)

Product (article) characteristics
Limit the substance content in the product to 1 % .
Amount used (or contained in articles), frequency and duration of use/exposure
Avoid carrying out activities involving exposure for more than 1 hour.
Technical and organisational conditions and measures
Provide a basic standard of general ventilation (1 to 3 air changes per hour) .
Use in semi-closed process with opportunity for exposure

Basic (professional) exposure controls assumed.
Conditions and measures related to personal protection, hygiene and health evaluation
Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.; For further specification, refer to section 8 of the SDS.
Other conditions affecting workers exposure
Indoor use
Assumes process temperature up to 40.0 °C

6.2.4. Control of worker exposure: Professional Use of Maintenance Products; Wooden Furniture care product; Manual process (AISE-P601); Use Phase - Professional Use of Maintenance Products; Wooden Furniture care product; Wipe manual process (AISE-P602); Use Phase - Professional Use of Maintenance Products; Leather care product; Manual process (AISE-P603); Use Phase - Professional Use of Maintenance Products; Leather care product; Wipe manual process (AISE-P604); Use Phase - Professional Use of Maintenance Products; Stainless steel care; Wipe manual process (AISE-P609); Use Phase (PROC 10)

Product (article) characteristics
Limit the substance content in the product to 1 % .
Amount used (or contained in articles), frequency and duration of use/exposure
Avoid carrying out activities involving exposure for more than 1 hour.
Technical and organisational conditions and measures
Provide a basic standard of general ventilation (1 to 3 air changes per hour) .
Basic (professional) exposure controls assumed.
Conditions and measures related to personal protection, hygiene and health evaluation
Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.; For further specification, refer to section 8 of the SDS.
Wear a respirator providing a minimum efficiency of 90.0 %; For further specification, refer to section 8 of the SDS.
Other conditions affecting workers exposure

Indoor use
Assumes process temperature up to 40.0 °C

6.2.5. Control of worker exposure: Professional Use of Floor care products; Polish / impregnating agent; Manual process (AISE-P406); Use Phase - Professional Use of Floor care products; Polish / impregnating agent; Semi-Automatic process (AISE-P407); Use Phase - Professional Use of Floor care products; Polish / impregnating agent; Wipe manual process (AISE-P408); Use Phase - Professional Use of Maintenance Products; Stainless steel care ; Manual process (AISE-P608); Use Phase (PROC 10)

Product (article) characteristics
Limit the substance content in the product to 1 % .
Amount used (or contained in articles), frequency and duration of use/exposure
Avoid carrying out activities involving exposure for more than 4 hours.
Technical and organisational conditions and measures
Provide a basic standard of general ventilation (1 to 3 air changes per hour) .
Basic (professional) exposure controls assumed.
Conditions and measures related to personal protection, hygiene and health evaluation
Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.; For further specification, refer to section 8 of the SDS.
Wear a respirator providing a minimum efficiency of 95.0 %; For further specification, refer to section 8 of the SDS.
Other conditions affecting workers exposure
Indoor use
Assumes process temperature up to 40.0 °C

6.2.6. Control of worker exposure: Professional Use of Maintenance Products; Wooden Furniture care product; Spray manual process (AISE-P602); Use Phase - Professional Use of Maintenance Products; Leather care product; Spray manual process (AISE-P604); Use Phase - Professional Use of Maintenance Products; Stainless steel care; Spray manual process (AISE-P609); Use Phase (PROC 11)

Product (article) characteristics

Limit the substance content in the product to 1 % .
Amount used (or contained in articles), frequency and duration of use/exposure
Avoid carrying out activities involving exposure for more than 15 minutes.
Technical and organisational conditions and measures
Provide a basic standard of general ventilation (1 to 3 air changes per hour) .
Local exhaust ventilation - efficiency of at least 80.0 %
Basic (professional) exposure controls assumed.
Conditions and measures related to personal protection, hygiene and health evaluation
Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.; For further specification, refer to section 8 of the SDS.
Wear a respirator providing a minimum efficiency of 90.0 %; For further specification, refer to section 8 of the SDS.
Other conditions affecting workers exposure
Indoor use
Assumes process temperature up to 40.0 °C

6.2.7. Control of worker exposure: Professional Use of Floor care products; Polish / impregnating agent; Spray manual process (AISE-P408); Use Phase (PROC 11)

Product (article) characteristics
Limit the substance content in the product to 1 % .
Amount used (or contained in articles), frequency and duration of use/exposure
Avoid carrying out activities involving exposure for more than 1 hour.
Technical and organisational conditions and measures
Provide a basic standard of general ventilation (1 to 3 air changes per hour) .
Local exhaust ventilation - efficiency of at least 80.0 %
Basic (professional) exposure controls assumed.

Conditions and measures related to personal protection, hygiene and health evaluation
Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.; For further specification, refer to section 8 of the SDS.
Wear a respirator providing a minimum efficiency of 90.0 %; For further specification, refer to section 8 of the SDS.
Other conditions affecting workers exposure
Indoor use
Assumes process temperature up to 40.0 °C

6.3. Exposure estimation and reference to its source

6.3.1. Environmental release and exposure: GES5 - Professional end-use of polishes and wax blends (ERC 8a)

Release route	Release rate	Release estimation method
Water	0.02 kg/day	ERC based
Air	0.02 kg/day	ERC based
Soil	0 kg/day	ERC based

Protection target	Exposure estimate (based on: EUSES 2.1.2)	RCR
Freshwater	2.247E-4 mg/L	0.11
Sediment (freshwater)	0.007 mg/kg dw	0.01
Marine water	2.106E-5 mg/L	0.103
Sediment (marine water)	6.241E-4 mg/kg dw	< 0.01
Predator (freshwater)	0.142 mg/kg ww	< 0.01
Predator (marine water)	0.013 mg/kg ww	< 0.01
Top predator (marine water)	0.009 mg/kg ww	< 0.01
Sewage treatment plant	0.001 mg/L	< 0.01

Protection target	Exposure estimate (based on: EUSES 2.1.2)	RCR
Agricultural soil	6.878E-4 mg/kg dw	< 0.01
Predator (terrestrial)	1.886E-4 mg/kg ww	< 0.01
Man via environment - Inhalation	7.491E-6 mg/m³	< 0.01
Man via environment - Oral	3.233E-4 mg/kg bw/day	< 0.01

6.3.2. Worker exposure: Professional Use of Maintenance Products; Leather care product; Semi-Automatic process (AISE-P605); Use Phase (PROC 2)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, systemic, long-term	0.643 mg/m³ (TRA Workers 3.0)	0.183
Dermal, systemic, long-term	0.137 mg/kg bw/day (TRA Workers 3.0)	0.137
Combined routes, systemic, long-term		0.32

6.3.3. Worker exposure: Professional Use of Maintenance Products; Leather care product; Semi-Automatic process (AISE-P605); Preparatory Phase (PROC 8b)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, systemic, long-term	1.285 mg/m³ (TRA Workers 3.0)	0.365
Dermal, systemic, long-term	0.137 mg/kg bw/day (TRA Workers 3.0)	0.137
Combined routes, systemic, long-term		0.502

6.3.4. Worker exposure: Professional Use of Maintenance Products; Wooden Furniture care product; Manual process (AISE-P601); Use Phase - Professional Use of Maintenance Products; Wooden Furniture care product; Wipe manual process (AISE-P602); Use Phase - Professional Use of Maintenance Products; Leather care product; Manual process (AISE-P603); Use Phase - Professional Use of Maintenance Products; Leather care product; Wipe manual process (AISE-P604); Use Phase - Professional Use of Maintenance Products; Stainless steel care; Wipe manual process (AISE-P609); Use Phase (PROC 10)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, systemic, long-term	0.321 mg/m³ (TRA Workers 3.0)	0.091

Route of exposure and type of effects	Exposure estimate	RCR
Dermal, systemic, long-term	0.274 mg/kg bw/day (TRA Workers 3.0)	0.274
Combined routes, systemic, long-term		0.366

6.3.5. Worker exposure: Professional Use of Floor care products; Polish / impregnating agent; Manual process (AISE-P406); Use Phase - Professional Use of Floor care products; Polish / impregnating agent; Semi-Automatic process (AISE-P407); Use Phase - Professional Use of Floor care products; Polish / impregnating agent; Wipe manual process (AISE-P408); Use Phase - Professional Use of Maintenance Products; Stainless steel care ; Manual process (AISE-P608); Use Phase (PROC 10)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, systemic, long-term	0.482 mg/m³ (TRA Workers 3.0)	0.137
Dermal, systemic, long-term	0.274 mg/kg bw/day (TRA Workers 3.0)	0.274
Combined routes, systemic, long-term		0.411

6.3.6. Worker exposure: Professional Use of Maintenance Products; Wooden Furniture care product; Spray manual process (AISE-P602); Use Phase - Professional Use of Maintenance Products; Leather care product; Spray manual process (AISE-P604); Use Phase - Professional Use of Maintenance Products; Stainless steel care; Spray manual process (AISE-P609); Use Phase (PROC 11)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, systemic, long-term	0.128 mg/m³ (TRA Workers 3.0)	0.037
Dermal, systemic, long-term	0.214 mg/kg bw/day (TRA Workers 3.0)	0.214
Combined routes, systemic, long-term		0.251

6.3.7. Worker exposure: Professional Use of Floor care products; Polish / impregnating agent; Spray manual process (AISE-P408); Use Phase (PROC 11)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, systemic, long-term	0.257 mg/m³ (TRA Workers 3.0)	0.073
Dermal, systemic, long-term	0.214 mg/kg bw/day (TRA Workers 3.0)	0.214
Combined routes, systemic, long-term		0.287

6.4. Guidance to DU to evaluate whether he works inside the boundaries

set by the ES

7. ES 7: Consumer Use; GES6 - Consumer end-use of washing and cleaning products

7.1. Title section

Environment	
CS 1: GES6 - Consumer end-use of washing and cleaning products (indoor and outdoor use)	ERC 8d, ERC 8a
Consumer	
CS 2: CS1a Laundry and dish washing products [a) laundry regular (powder, liquid) AISE C1; b) laundry compact (powder, liquid/gel, tablet) AISE C2; d) Laundry additives (powder bleach, liquid bleach, tablet) AISE C4; f) Machine dishwashing (powder, liquid, tablet) ; AISE C6	PC 35
CS 3: CS1b Laundry and dish washing products [c) fabric conditioners (liquid regular, liquid concentrate) AISE C3	PC 35
CS 4: CS1c Laundry and dish washing products [e) Hand dishwashing (liquid regular, liquid concentrate) ; AISE C5	PC 35
CS 5: CS1d Laundry and dish washing products [g) Laundry aids (ironing aids-starch spray, ironing aids-other) ; AISE C12	PC 35
CS 6: CS2a Cleaners, liquids (all purpose cleaners, sanitary products, floor cleaners, glass cleaners, carpet cleaners, metal cleaners) [a) Surface cleaners (liquid, powder, gel neat) AISE C7; b) Toilet cleaners (powder, liquid, gel, tablet) AISE C8; c) Carpet cleaners (liquid) AISE C11;	PC 35
CS 7: CS2b Cleaners, liquids (all purpose cleaners, sanitary products, floor cleaners, glass cleaners, carpet cleaners, metal cleaners) [d) Wipes (bathroom, kitchen, floor) AISE C15;	PC 35
CS 8: CS2c Cleaners, liquids (all purpose cleaners, sanitary products, floor cleaners, glass cleaners, carpet cleaners, metal cleaners) [e) High pressure washers/cleaners (liquid) AISE C21; f) Automotive care (liquid) AISE C22]	PC 35
CS 9: CS3a Cleaners, trigger sprays (all purpose cleaners, sanitary products, glass cleaners) [a) Surface cleaners (spray neat) AISE C7; b) Oven cleaners (trigger spray) AISE C10; c) Carpet cleaners (spray) AISE C11;	PC 35
CS 10: CS3b Cleaners, trigger sprays (all purpose cleaners, sanitary products, glass cleaners) [d) Automotive care (spray) AISE C22]	PC 35

7.2. Conditions of use affecting exposure

7.2.1. Control of environmental exposure: GES6 - Consumer end-use of washing and cleaning products (indoor and outdoor use) (ERC 8d)

Conditions and measures related to treatment of waste (including article waste)
Dispose of waste or used sacks/containers according to local regulations.

7.2.2. Control of consumer exposure: CS1a Laundry and dish washing products [a) laundry regular (powder, liquid) AISE C1; b) laundry compact (powder, liquid/gel, tablet) AISE C2; d) Laundry additives (powder bleach, liquid bleach, tablet) AISE C4; f) Machine dishwashing (powder, liquid, tablet) ; AISE C6 (PC 35)

Product (article) characteristics
Covers concentrations up to 0.05 %
Oral exposure is considered to be not relevant.
Amount used, frequency and duration of use/exposure
Covers use up to 50.0 g/event
Covers use up to 1.0 events/day
Other conditions affecting consumers exposure
Assumes that potential dermal contact is limited to hands.

7.2.3. Control of consumer exposure: CS1b Laundry and dish washing products [c) fabric conditioners (liquid regular, liquid concentrate) AISE C3 (PC 35)

Product (article) characteristics
Covers concentrations up to 0.1 %
Oral exposure is considered to be not relevant.
Amount used, frequency and duration of use/exposure
Covers use up to 50.0 g/event
Covers use up to 0.6 events/day
Other conditions affecting consumers exposure
Assumes that potential dermal contact is limited to hands.

7.2.4. Control of consumer exposure: CS1c Laundry and dish washing products [e] Hand dishwashing (liquid regular, liquid concentrate) ; AISE C5 (PC 35)

Product (article) characteristics
Covers concentrations up to 0.1 %
Oral exposure is considered to be not relevant.
Amount used, frequency and duration of use/exposure
Covers use up to 10.0 g/event
Covers use up to 1.0 events/day
Other conditions affecting consumers exposure
Assumes that potential dermal contact is limited to hands.

7.2.5. Control of consumer exposure: CS1d Laundry and dish washing products [g] Laundry aids (ironing aids-starch spray, ironing aids-other) ; AISE C12 (PC 35)

Product (article) characteristics
Laundry and dish washing products
No spraying
Limit the substance content in the product to 0.00025 g/g
Oral exposure is considered to be not relevant.
Amount used, frequency and duration of use/exposure
Covers use up to 10.0 g/event
Covers use up to 1.0 events/day
Other conditions affecting consumers exposure
Assumes that potential dermal contact is limited to hands.

7.2.6. Control of consumer exposure: CS2a Cleaners, liquids (all purpose cleaners, sanitary products, floor cleaners, glass cleaners, carpet cleaners, metal cleaners) [a) Surface cleaners (liquid, powder, gel neat) AISE C7; b) Toilet cleaners (powder, liquid, gel, tablet) AISE C8; c) Carpet cleaners (liquid) AISE C11; (PC 35)

Product (article) characteristics

Covers concentrations up to 0.1 %
Oral exposure is considered to be not relevant.
Amount used, frequency and duration of use/exposure
Covers use up to 30.0 g/event
Covers use up to 0.25 events/day
Other conditions affecting consumers exposure
Assumes that potential dermal contact is limited to hands.

7.2.7. Control of consumer exposure: CS2b Cleaners, liquids (all purpose cleaners, sanitary products, floor cleaners, glass cleaners, carpet cleaners, metal cleaners) [d) Wipes (bathroom, kitchen, floor) AISE C15; (PC 35)

Product (article) characteristics
Covers concentrations up to 0.1 %
Oral exposure is considered to be not relevant.
Amount used, frequency and duration of use/exposure
Covers use up to 10.0 g/event
Covers use up to 1.0 events/day
Other conditions affecting consumers exposure
Assumes that potential dermal contact is limited to hands.

7.2.8. Control of consumer exposure: CS2c Cleaners, liquids (all purpose cleaners, sanitary products, floor cleaners, glass cleaners, carpet cleaners, metal cleaners) [e) High pressure washers/cleaners (liquid) AISE C21; f) Automotive care (liquid) AISE C22] (PC 35)

Product (article) characteristics
Covers concentrations up to 0.1 %
Oral exposure is considered to be not relevant.
Amount used, frequency and duration of use/exposure

Covers use up to 150.0 g/event
Covers use up to 0.021 events/day
Other conditions affecting consumers exposure
Assumes that potential dermal contact is limited to hands.

7.2.9. Control of consumer exposure: CS3a Cleaners, trigger sprays (all purpose cleaners, sanitary products, glass cleaners) [a) Surface cleaners (spray neat) AISE C7; b) Oven cleaners (trigger spray) AISE C10; c) Carpet cleaners (spray) AISE C11; (PC 35)

Product (article) characteristics
Product is a spray
Covers concentrations up to 0.1 %
Oral exposure is considered to be not relevant.
Amount used, frequency and duration of use/exposure
Covers use up to 30.0 g/event
Covers use up to 0.25 events/day
Other conditions affecting consumers exposure
Assumes that potential dermal contact is limited to hands.

7.2.10. Control of consumer exposure: CS3b Cleaners, trigger sprays (all purpose cleaners, sanitary products, glass cleaners) [d) Automotive care (spray) AISE C22] (PC 35)

Product (article) characteristics
Product is a spray
Covers concentrations up to 0.1 %
Oral exposure is considered to be not relevant.
Amount used, frequency and duration of use/exposure
Covers use up to 150.0 g/event
Covers use up to 0.021 events/day

Other conditions affecting consumers exposure
Assumes that potential dermal contact is limited to hands.

7.3. Exposure estimation and reference to its source

7.3.1. Environmental release and exposure: GES6 - Consumer end-use of washing and cleaning products (indoor and outdoor use) (ERC 8d)

Release route	Release rate	Release estimation method
Water	0.02 kg/day	ERC based
Air	0.02 kg/day	ERC based
Soil	0.004 kg/day	ERC based

Protection target	Exposure estimate (based on: EUSES 2.1.2)	RCR
Freshwater	2.247E-4 mg/L	0.11
Sediment (freshwater)	0.007 mg/kg dw	0.01
Marine water	2.106E-5 mg/L	0.103
Sediment (marine water)	6.241E-4 mg/kg dw	< 0.01
Predator (freshwater)	0.142 mg/kg ww	< 0.01
Predator (marine water)	0.013 mg/kg ww	< 0.01
Top predator (marine water)	0.009 mg/kg ww	< 0.01
Sewage treatment plant	0.001 mg/L	< 0.01
Agricultural soil	6.878E-4 mg/kg dw	< 0.01
Predator (terrestrial)	1.886E-4 mg/kg ww	< 0.01
Man via environment - Inhalation	7.491E-6 mg/m³	< 0.01
Man via environment - Oral	3.233E-4 mg/kg bw/day	< 0.01

7.3.2. Consumer exposure: CS1a Laundry and dish washing products [a) laundry regular (powder, liquid) AISE C1; b) laundry compact (powder, liquid/gel, tablet) AISE C2; d) Laundry additives (powder bleach, liquid bleach, tablet) AISE C4; f) Machine dishwashing (powder, liquid, tablet) ; AISE C6 (PC 35)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, systemic, long-term	0.13 mg/m³ (External Tool: *TRA V3 - tier 1.5*)	0.149
Dermal, systemic, long-term	0.071 mg/kg bw/day (External Tool: *TRA V3 - tier 1.5*)	0.142
Oral, systemic, long-term	0 mg/kg bw/day (External Tool: *TRA V3 - tier 1.5*)	< 0.01
Combined routes, systemic, long-term		0.291

7.3.3. Consumer exposure: CS1b Laundry and dish washing products [c) fabric conditioners (liquid regular, liquid concentrate) AISE C3 (PC 35)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, systemic, long-term	0.158 mg/m³ (External Tool: *TRA V3 - tier 1.5*)	0.182
Dermal, systemic, long-term	0.09 mg/kg bw/day (External Tool: *TRA V3 - tier 1.5*)	0.18
Oral, systemic, long-term	0 mg/kg bw/day (External Tool: *TRA V3 - tier 1.5*)	< 0.01
Combined routes, systemic, long-term		0.362

7.3.4. Consumer exposure: CS1c Laundry and dish washing products [e) Hand dishwashing (liquid regular, liquid concentrate) ; AISE C5 (PC 35)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, systemic, long-term	0.156 mg/m³ (External Tool: *TRA V3 - tier 1.5*)	0.179
Dermal, systemic, long-term	0.143 mg/kg bw/day (External Tool: *TRA V3 - tier 1.5*)	0.286
Oral, systemic, long-term	0 mg/kg bw/day (External Tool: *TRA V3 - tier 1.5*)	< 0.01
Combined routes, systemic, long-term		0.465

7.3.5. Consumer exposure: CS1d Laundry and dish washing products [g) Laundry aids (ironing aids-starch spray, ironing aids-other) ; AISE C12 (PC 35)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, systemic, long-term	0.078 mg/m³ (TRA Consumers 3.0)	0.09
Dermal, systemic, long-term	0.036 mg/kg bw/day (TRA Consumers 3.0)	0.071
Oral, systemic, long-term	0 mg/kg bw/day (TRA Consumers 3.0)	< 0.01
Combined routes, systemic, long-term		0.161

7.3.6. Consumer exposure: CS2a Cleaners, liquids (all purpose cleaners, sanitary products, floor cleaners, glass cleaners, carpet cleaners, metal cleaners) [a) Surface cleaners (liquid, powder, gel neat) AISE C7; b) Toilet cleaners (powder, liquid, gel, tablet) AISE C8; c) Carpet cleaners (liquid) AISE C11; (PC 35)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, systemic, long-term	0.156 mg/m³ (External Tool: *TRA V3 - tier 1.5*)	0.179
Dermal, systemic, long-term	0.036 mg/kg bw/day (External Tool: *TRA V3 - tier 1.5*)	0.072
Oral, systemic, long-term	0 mg/kg bw/day (External Tool: *TRA V3 - tier 1.5*)	< 0.01
Combined routes, systemic, long-term		0.251

7.3.7. Consumer exposure: CS2b Cleaners, liquids (all purpose cleaners, sanitary products, floor cleaners, glass cleaners, carpet cleaners, metal cleaners) [d) Wipes (bathroom, kitchen, floor) AISE C15; (PC 35)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, systemic, long-term	0.104 mg/m³ (External Tool: *TRA V3 - tier 1.5*)	0.12
Dermal, systemic, long-term	0.143 mg/kg bw/day (External Tool: *TRA V3 - tier 1.5*)	0.286
Oral, systemic, long-term	0 mg/kg bw/day (External Tool: *TRA V3 - tier 1.5*)	< 0.01
Combined routes, systemic, long-term		0.406

7.3.8. Consumer exposure: CS2c Cleaners, liquids (all purpose cleaners, sanitary products, floor cleaners, glass cleaners, carpet cleaners, metal cleaners) [e) High pressure washers/cleaners (liquid) AISE C21; f) Automotive care (liquid) AISE C22] (PC 35)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, systemic, long-term	0.131 mg/m³ (External Tool: *TRA V3 - tier 1.5*)	0.151
Dermal, systemic, long-term	0.003 mg/kg bw/day (External Tool: *TRA V3 - tier 1.5*)	< 0.01
Oral, systemic, long-term	0 mg/kg bw/day (External Tool: *TRA V3 - tier 1.5*)	< 0.01
Combined routes, systemic, long-term		0.157

7.3.9. Consumer exposure: CS3a Cleaners, trigger sprays (all purpose cleaners, sanitary products, glass cleaners) [a) Surface cleaners (spray neat) AISE C7; b) Oven cleaners (trigger spray) AISE C10; c) Carpet cleaners (spray) AISE C11; (PC 35)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, systemic, long-term	0.11 mg/m³ (External Tool: *TRA V3 - tier 1.5*)	0.126
Dermal, systemic, long-term	0.036 mg/kg bw/day (External Tool: *TRA V3 - tier 1.5*)	0.072
Oral, systemic, long-term	0 mg/kg bw/day (External Tool: *TRA V3 - tier 1.5*)	< 0.01
Combined routes, systemic, long-term		0.198

7.3.10. Consumer exposure: CS3b Cleaners, trigger sprays (all purpose cleaners, sanitary products, glass cleaners) [d) Automotive care (spray) AISE C22] (PC 35)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, systemic, long-term	0.103 mg/m³ (External Tool: *TRA V3 - tier 1.5*)	0.118
Dermal, systemic, long-term	0.003 mg/kg bw/day (External Tool: *TRA V3 - tier 1.5*)	< 0.01
Oral, systemic, long-term	0 mg/kg bw/day (External Tool: *TRA V3 - tier 1.5*)	< 0.01
Combined routes, systemic, long-term		0.124

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

Scaling method

The consumers exposure and environmental emissions have been evaluated using TRA V3 – tier 1.5 and EUSES 2.1.2, respectively.
Health
Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures / Operational Conditions outlined in Section 2 are implemented. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.
Environment
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.

8. ES 8: Consumer Use; GES7 - Consumer end-use of air care products

8.1. Title section

Environment	
CS 1: GES7 - Consumer end-use of air care products	ERC 8a
Consumer	
CS 2: CS1 Air fresheners aerosol : aqueous, non-aqueous, concentrated (mini-aerosol, Timed release aerosol) ; AISE C17	PC 3
CS 3: CS2 Air fresheners non aerosol [a) perfume in/on solid substrate (gel), diffusers (heated) AISE C18; b) candles AISE C18]	PC 3

8.2. Conditions of use affecting exposure

8.2.1. Control of environmental exposure: GES7 - Consumer end-use of air care products (ERC 8a)

Conditions and measures related to treatment of waste (including article waste)
Dispose of waste or used sacks/containers according to local regulations.

8.2.2. Control of consumer exposure: CS1 Air fresheners aerosol : aqueous, non-aqueous, concentrated (mini-aerosol, Timed release aerosol) ; AISE C17 (PC 3)

Product (article) characteristics
Product is a spray
Covers concentrations up to 0.25 %
Oral exposure is considered to be not relevant.
Amount used, frequency and duration of use/exposure
Covers use up to 8.4 g/event
Covers use up to 1.0 events/day

8.2.3. Control of consumer exposure: CS2 Air fresheners non aerosol [a) perfume in/on solid substrate (gel), diffusers (heated) AISE C18; b) candles AISE C18] (PC 3)

Product (article) characteristics

Air care, continuous action (solid and liquid)
Limit the substance content in the product to 0.01 g/g
Oral exposure is considered to be not relevant.
Amount used, frequency and duration of use/exposure
Covers use up to 0.84 g/event
Covers use up to 1.0 events/day
Other conditions affecting consumers exposure
Assumes that potential dermal contact is limited to fingertips.

8.3. Exposure estimation and reference to its source

8.3.1. Environmental release and exposure: GES7 - Consumer end-use of air care products (ERC 8a)

Release route	Release rate	Release estimation method
Water	0.02 kg/day	ERC based
Air	0.02 kg/day	ERC based
Soil	0 kg/day	ERC based

Protection target	Exposure estimate (based on: EUSES 2.1.2)	RCR
Freshwater	2.247E-4 mg/L	0.11
Sediment (freshwater)	0.007 mg/kg dw	0.01
Marine water	2.106E-5 mg/L	0.103
Sediment (marine water)	6.241E-4 mg/kg dw	< 0.01
Predator (freshwater)	0.142 mg/kg ww	< 0.01
Predator (marine water)	0.013 mg/kg ww	< 0.01
Top predator (marine water)	0.009 mg/kg ww	< 0.01

Protection target	Exposure estimate (based on: EUSES 2.1.2)	RCR
Sewage treatment plant	0.001 mg/L	< 0.01
Agricultural soil	6.878E-4 mg/kg dw	< 0.01
Predator (terrestrial)	1.886E-4 mg/kg ww	< 0.01
Man via environment - Inhalation	7.491E-6 mg/m³	< 0.01
Man via environment - Oral	3.233E-4 mg/kg bw/day	< 0.01

8.3.2. Consumer exposure: CS1 Air fresheners aerosol : aqueous, non-aqueous, concentrated (mini-aerosol, Timed release aerosol) ; AISE C17 (PC 3)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, systemic, long-term	0.366 mg/m³ (External Tool: *TRA V3 - tier 1.5*)	0.421
Dermal, systemic, long-term	0 mg/kg bw/day (External Tool: *TRA V3 - tier 1.5*)	< 0.01
Oral, systemic, long-term	0 mg/kg bw/day (External Tool: *TRA V3 - tier 1.5*)	< 0.01
Combined routes, systemic, long-term		0.421

8.3.3. Consumer exposure: CS2 Air fresheners non aerosol [a) perfume in/on solid substrate (gel), diffusers (heated) AISE C18; b) candles AISE C18] (PC 3)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, systemic, long-term	0.072 mg/m³ (TRA Consumers 3.0)	0.083
Dermal, systemic, long-term	0.006 mg/kg bw/day (TRA Consumers 3.0)	0.012
Oral, systemic, long-term	0 mg/kg bw/day (TRA Consumers 3.0)	< 0.01
Combined routes, systemic, long-term		0.095

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

Scaling method

The consumers exposure emissions have been evaluated using TRA V3 - tier 1.5 and TRA Consumers 3.0 and environmental exposure using EUSES 2.1.2.
Health
Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures / Operational Conditions outlined in Section 2 are implemented. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.
Environment
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.

9. ES 9: Consumer Use; GES8 - Consumer end-use of biocides

9.1. Title section

Environment	
CS 1: GES8 - Consumer end-use of biocides (indoor and outdoor use)	ERC 8d, ERC 8a
Consumer	
CS 2: CS1 Insecticides: liquid electric, spray neat ; AISE C19	PC 8
CS 3: CS2 Repellents ; AISE C19	PC 8

9.2. Conditions of use affecting exposure

9.2.1. Control of environmental exposure: GES8 - Consumer end-use of biocides (indoor and outdoor use) (ERC 8d)

Conditions and measures related to treatment of waste (including article waste)
Dispose of waste or used sacks/containers according to local regulations.

9.2.2. Control of consumer exposure: CS1 Insecticides: liquid electric, spray neat ; AISE C19 (PC 8)

Product (article) characteristics
Product is a spray
Covers concentrations up to 0.25 %
Oral exposure is considered to be not relevant.
Amount used, frequency and duration of use/exposure
Covers use up to 8.4 g/event
Covers use up to 1.0 events/day

9.2.3. Control of consumer exposure: CS2 Repellents ; AISE C19 (PC 8)

Product (article) characteristics
Product is a spray

Covers concentrations up to 1.0 %
Oral exposure is considered to be not relevant.
Air care, continuous action (solid and liquid)
Amount used, frequency and duration of use/exposure
Covers use up to 0.84 g/event
Covers use up to 1.0 events/day
Other conditions affecting consumers exposure
Assumes that potential dermal contact is limited to fingertips.

9.3. Exposure estimation and reference to its source

9.3.1. Environmental release and exposure: GES8 - Consumer end-use of biocides (indoor and outdoor use) (ERC 8d)

Release route	Release rate	Release estimation method
Water	0.02 kg/day	ERC based
Air	0.02 kg/day	ERC based
Soil	0.004 kg/day	ERC based

Protection target	Exposure estimate (based on: EUSES 2.1.2)	RCR
Freshwater	2.247E-4 mg/L	0.11
Sediment (freshwater)	0.007 mg/kg dw	0.01
Marine water	2.106E-5 mg/L	0.103
Sediment (marine water)	6.241E-4 mg/kg dw	< 0.01
Predator (freshwater)	0.142 mg/kg ww	< 0.01
Predator (marine water)	0.013 mg/kg ww	< 0.01
Top predator (marine water)	0.009 mg/kg ww	< 0.01

Protection target	Exposure estimate (based on: EUSES 2.1.2)	RCR
Sewage treatment plant	0.001 mg/L	< 0.01
Agricultural soil	6.878E-4 mg/kg dw	< 0.01
Predator (terrestrial)	1.886E-4 mg/kg ww	< 0.01
Man via environment - Inhalation	7.491E-6 mg/m³	< 0.01
Man via environment - Oral	3.233E-4 mg/kg bw/day	< 0.01

9.3.2. Consumer exposure: CS1 Insecticides: liquid electric, spray neat ; AISE C19 (PC 8)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, systemic, long-term	0.366 mg/m³ (External Tool: *TRA V3 - tier 1.5*)	0.407
Dermal, systemic, long-term	0 mg/kg bw/day (External Tool: *TRA V3 - tier 1.5*)	< 0.01
Oral, systemic, long-term	0 mg/kg bw/day (External Tool: *TRA V3 - tier 1.5*)	< 0.01
Combined routes, systemic, long-term		0.407

9.3.3. Consumer exposure: CS2 Repellents ; AISE C19 (PC 8)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, systemic, long-term	0.072 mg/m³ (External Tool: *TRA V3*)	0.08
Dermal, systemic, long-term	0.006 mg/kg bw/day (External Tool: *TRA V3*)	0.023
Oral, systemic, long-term	0 mg/kg bw/day (External Tool: *TRA V3*)	< 0.01
Combined routes, systemic, long-term		0.104

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

Scaling method
The consumers exposure emissions have been evaluated using TRA V3 - tier 1.5 and TRA V3 and environmental exposure using EUSES 2.1.2.

Health
Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures / Operational Conditions outlined in Section 2 are implemented. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.
Environment
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.

10. ES 10: Consumer Use; GES9 - consumer end-use of polishes and wax blend

10.1. Title section

Environment	
CS 1: GES9 - consumer end-use of polishes and wax blend	ERC 8a
Consumer	
CS 2: CS1 Furniture, floor & leather care: wax/cream; (floor, furniture, shoes) ; AISE C20	PC 31
CS 3: CS2 Furniture, floor & leather care: spray; (furniture, shoes) ; AISE C20	PC 31

10.2. Conditions of use affecting exposure

10.2.1. Control of environmental exposure: GES9 - consumer end-use of polishes and wax blend (ERC 8a)

Conditions and measures related to treatment of waste (including article waste)
Dispose of waste or used sacks/containers according to local regulations.

10.2.2. Control of consumer exposure: CS1 Furniture, floor & leather care: wax/cream; (floor, furniture, shoes) ; AISE C20 (PC 31)

Product (article) characteristics
Polishes, wax / cream (floor, furniture, shoes)
Limit the substance content in the product to 0.001 g/g
Oral exposure is considered to be not relevant.
Polishes, wax / cream (floor, furniture, shoes)
Limit the substance content in the product to 0.001 g/g
Amount used, frequency and duration of use/exposure
For each use event, covers use amounts up to 550.0 g
Other conditions affecting consumers exposure
Assumes that potential dermal contact is limited to hands.

10.2.3. Control of consumer exposure: CS2 Furniture, floor & leather care: spray; (furniture, shoes) ; AISE C20 (PC 31)

Product (article) characteristics
Product is a spray
Covers concentrations up to 0.1 %
Polishes, spray (furniture, shoes)
Limit the substance content in the product to 0.001 g/g
Oral exposure is considered to be not relevant.
Amount used, frequency and duration of use/exposure
For each use event, covers use amounts up to 135.0 g
Other conditions affecting consumers exposure
Covers use in room size of = 20.0 m3
Assumes that potential dermal contact is limited to hands.

10.3. Exposure estimation and reference to its source

10.3.1. Environmental release and exposure: GES9 - consumer end-use of polishes and wax blend (ERC 8a)

Release route	**Release rate**	**Release estimation method**
Water	0.02 kg/day	ERC based
Air	0.02 kg/day	ERC based
Soil	0 kg/day	ERC based

Protection target	**Exposure estimate (based on: EUSES 2.1.2)**	**RCR**
Freshwater	2.247E-4 mg/L	0.11
Sediment (freshwater)	0.007 mg/kg dw	0.01
Marine water	2.106E-5 mg/L	0.103

Protection target	Exposure estimate (based on: EUSES 2.1.2)	RCR
Sediment (marine water)	6.241E-4 mg/kg dw	< 0.01
Predator (freshwater)	0.142 mg/kg ww	< 0.01
Predator (marine water)	0.013 mg/kg ww	< 0.01
Top predator (marine water)	0.009 mg/kg ww	< 0.01
Sewage treatment plant	0.001 mg/L	< 0.01
Agricultural soil	6.878E-4 mg/kg dw	< 0.01
Predator (terrestrial)	1.886E-4 mg/kg ww	< 0.01
Man via environment - Inhalation	7.491E-6 mg/m³	< 0.01
Man via environment - Oral	3.233E-4 mg/kg bw/day	< 0.01

10.3.2. Consumer exposure: CS1 Furniture, floor & leather care: wax/cream; (floor, furniture, shoes) ; AISE C20 (PC 31)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, systemic, long-term	1E-5 mg/m³ (External Tool: *ConsExpo 5*)	< 0.01
Dermal, systemic, long-term	0.143 mg/kg bw/day (TRA Consumers 3.0)	0.286
Oral, systemic, long-term	0 mg/kg bw/day (TRA Consumers 3.0)	< 0.01
Combined routes, systemic, long-term		0.286

10.3.3. Consumer exposure: CS2 Furniture, floor & leather care: spray; (furniture, shoes) ; AISE C20 (PC 31)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, systemic, long-term	4.8E-7 mg/m³ (External Tool: *ConsExpo 5*)	< 0.01
Dermal, systemic, long-term	0.143 mg/kg bw/day (TRA Consumers 3.0)	0.286
Oral, systemic, long-term	0 mg/kg bw/day (TRA Consumers 3.0)	< 0.01
Combined routes, systemic, long-term		0.286

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

Scaling method
The consumers exposure emissions have been evaluated using TRA Consumers 3.0 and ConsExpo 5 and environmental exposure using EUSES 2.1.2.
Health
Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures / Operational Conditions outlined in Section 2 are implemented. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.
Environment
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.

11. ES 11: Consumer Use; GES10 - Consumer end-use of cosmetics

11.1. Title section

Environment	
CS 1: GES10 - Consumer end-use of cosmetics	ERC 8a
Consumer	
CS 2: cosmetics, personal care products	PC 39
CS 3: perfumes, fragrances	PC 28

11.2. Conditions of use affecting exposure

11.2.1. Control of environmental exposure: GES10 - Consumer end-use of cosmetics (ERC 8a)

Conditions and measures related to treatment of waste (including article waste)
Dispose of waste or used sacks/containers according to local regulations.

11.2.2. Control of consumer exposure: cosmetics, personal care products (PC 39)

No human health assessment needed (assessed under cosmetic regulation)

11.2.3. Control of consumer exposure: perfumes, fragrances (PC 28)

No human health assessment needed (assessed under cosmetic regulation).

11.3. Exposure estimation and reference to its source

11.3.1. Environmental release and exposure: GES10 - Consumer end-use of cosmetics (ERC 8a)

Release route	Release rate	Release estimation method
Water	0.041 kg/day	ERC based
Air	0.041 kg/day	ERC based
Soil	0 kg/day	ERC based

Protection target	Exposure estimate (based on: EUSES 2.1.2)	RCR
Freshwater	3.468E-4 mg/L	0.17
Sediment (freshwater)	0.01 mg/kg dw	0.015
Marine water	3.326E-5 mg/L	0.163
Sediment (marine water)	9.86E-4 mg/kg dw	0.015
Predator (freshwater)	0.194 mg/kg ww	< 0.01
Predator (marine water)	0.018 mg/kg ww	< 0.01
Top predator (marine water)	0.01 mg/kg ww	< 0.01
Sewage treatment plant	0.002 mg/L	< 0.01
Agricultural soil	0.001 mg/kg dw	0.01
Predator (terrestrial)	3.604E-4 mg/kg ww	< 0.01
Man via environment - Inhalation	7.632E-6 mg/m³	< 0.01
Man via environment - Oral	4.996E-4 mg/kg bw/day	< 0.01

11.3.2. Consumer exposure: cosmetics, personal care products (PC 39)

The human health aspects of cosmetics have already been assessed under the Cosmetics Directive and as such are not covered by REACH as indicated below:

Article 14, paragraph 5b stipulates that: “The chemical safety report need not include consideration of the risks to human health from the following end uses; (b) in cosmetic products within the scope of Directive 76/768/EEC”.

11.3.3. Consumer exposure: perfumes, fragrances (PC 28)

The human health aspects of cosmetics have already been assessed under the Cosmetics Directive and as such are not covered by REACH as indicated below:

Article 14, paragraph 5b stipulates that: “The chemical safety report need not include consideration of the risks to human health from the following end uses; (b) in cosmetic products within the scope of Directive 76/768/EEC”.

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

Scaling method
The environmental exposure has been evaluated using EUSES 2.1.2.
Health
Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures / Operational Conditions outlined in Section 2 are implemented. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.
Environment
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.