Revision nr : 0 Date : 25/9/2012 Supersedes : 0/0/0

# SPECIAL BOILING POINT 100/140

Code : 16429

### **Responsible for distribution:**

BRENNTAG

BRENNTAG N.V. Nijverheidslaan 38 - BE-8540 DEERLIJK TEL: +32(0)56/77.69.44 - FAX: +32(0)56/77.57.11 E-MAIL: info@brenntag.be - Website: www.brenntag.be

BRENNTAG Nederland B.V. Donker Duyvisweg 44 - NL-3316 BM DORDRECHT TEL: +31(0)78/65.44.944 - FAX: +31(0)78/65.44.919 E-MAIL: info@brenntag.nl - Website: www.brenntag.nl

### In case of emergency:

Belgium: Antipoison Center - Brussels : TEL: 070/245.245

The Netherlands: National Poisoning Information Center - Bilthoven : TEL: 030/274.88.88

### 1. Identification of the substance/mixture and of the company/undertaking

### 1.1. Product identifier

Chemical description	:Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics .
Type of product	: Dearomatized hydrocarbons .
Reach registration number	: 01-2119473851-33
1.2. Relevant identified uses of	the substance or mixture and uses advised against
Identified use(s)	: See table on the front page of the annex.
Use(s) advised against	: This product is not recommended for any industrial, professional or consumer use other than identified in table on the front page of the annex.
1.3. Details of the supplier of th	<u>e safety data sheet</u>
Company identification	: See heading of Material Safety Data Sheet.
1.4. Emergency telephone numl	ber
Emergency phone number	: See heading of Material Safety Data Sheet.

### 2. Hazards identification

### 2.1. Classification of the substance or mixture

### Classification according to Directive 67/548/EEC or 1999/45/EC

Highly flammable (F; R11) Dangerous for the environment (N; R51/53) Harmful (Xn; R65) Other (R66-67)

### Classification according to Regulation (EC) No 1272/2008

Flammable liquids - Category 2 - Danger (Flam. Liq. 2; H225) Aspiration hazard - Category 1 - Danger (Asp. Tox. 1; H304) Specific Target Organ Toxicity - Single exposure - Narcotic effects - Category 3 - Warning (STOT SE 3; H336) Hazardous to the aquatic environment - Chronic hazard - Category 2 (Aquatic Chronic 2; H411) Specific Target Organ Toxicity - Repeated exposure - Skin dryness or cracking (STOT RE; EUH066)

### 2.2. Label elements

### Label in accordance with Regulation (EC) No 1272/2008

- Dangerous ingredient(s)
   Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics
- Hazard pictogram(s)

Signal word

: Danger

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Hazard statements	: H225 - Highly flammable liquid and vapour. H304 - May be fatal if swallowed an enters airways. H336 - May cause drowsiness or dizziness. H411 - Toxic to aquatic life with long lasting effects. EUH066 - Repeated exposure may cause s dryness or cracking.
<ul> <li>Precautionary statements</li> </ul>	
- Prevention	: P210 - Keep away from heat, sparks, open flames or hot surfaces. – No smoking P261 - Avoid breathing dust, fume, gas, mist, vapours, spray. P273 - Avoid rele to the environment. P280 - Wear protective gloves, protective clothing, eye protection, face protection.
- Response	: P301+P310+P331 - IF SWALLOWED : Immediately call a POISON CENTER or doctor. Do NOT induce vomiting.
- Disposal considerations	: P501 - Dispose of contents and/or container in accordance with local, regional, national and/or international regulation.
2.3. Other hazards	
Physical/chemical hazards	: May generate static electric discharges.
Hazards for the health	: Exposure to high doses may cause depression of the central nervous system.
Hazards for the environment	: No additional hazard. This product is no substance or contains no PBT or vPvB accordance with Annex XIII).
Hazards for the safety	: At or above flash point, available vapours may burn in open or explode if confine when mixed with air and exposed to ignition source.

### 3.1. Substances

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Name component(s)		Weight %	CAS nr	EINECS nr	Index nr	Reach nr	CLASSIFICATION
Hydrocarbons C7-C9, n- alkanes, isoalkanes, cyclics	:	100 %		920-750-0		01-2119473851-33	F; R11 Xn; R65 R66 R67 N; R51-53
							Flam. Liq. 2; H225 Asp. Tox. 1; H304 STOT SE 3; H336 Aquatic Chronic 2; H411 STOT RE; EUH066

The full text of the R-phrases and (EU)H-statements is in section 16.

Note: Any entry in the EC# (or EINECS#) column that begins with the number "9" is a Provisional List Number provided by ECHA pending publication of the official EC Inventory Number for the substance.

. First aid measures	
4.1. Description of first a	id measures
General	: In case of doubt or persistent symptoms, call a physician. Never give anything by mouth to an unconscious person.
First Aid Measures	
- Inhalation	: Remove victim into fresh air. Allow the affected person to rest. If not breathing, give artificial respiration. If symptoms, consult doctor.



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I. First aid measures (continued)		
- Skin Contact	<ul> <li>Remove contaminated clothing. Rinse skin immediately with mild soap and plenty of water. (shower if necessary Consult doctor if irritation develops.</li> </ul>	
- Eye Contact	<ul> <li>Rinse immediately thoroughly and long (at least 15 min.) with plenty of water. Remove contact lenses.</li> <li>Consult eye doctor if irritation of eyes develops.</li> </ul>	
- Ingestion	: DO NOT INDUCE VOMITING. Rinse mouth with water. Seek medical attention IMMEDIATELY or take to hospital.	

See section 11.

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

For specialist advice doctors should contact the NVCI or the Belgian Poison center.

# 5. Firefighting measures

### 5.1. Extinguishing media

Extinguishing Media	
- Suitable	:Extinguishing powder , Foam , Carbon dioxide (CO2) . Water spray .
- Insuitable	: Heavy water stream .
5.2. Special hazards arising from	n the substance or mixture
Special Exposure Hazards	: Fire may liberate carbon oxides (CO) and smoke.
5.3. Advice for firefighters	
Special Protective Equipment for Firefighters	: Use self-contained breathing apparatus and wear protective clothes when in close proximity to fire.
Special Procedures	: Apply water spray or fog to cool nearby equipment. Avoid fire-fighting water to enter environment.

### 6. Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Personal Precautions	<ul> <li>Eliminate every possible source of ignition (open fire, sparks, smoking,).</li> <li>Evacuate all personnel immediately and ventilate area.</li> <li>Avoid breathing vapour and contact with skin, eyes and clothing. Wear recommended personal protective equipment. (See section 8)</li> </ul>
6.2. Environmental precautions	
Environmental Precautions	<ul> <li>Shut off leaks if without risks.</li> <li>Dike in the spilled product as much as possible with inert material.</li> <li>Prevent entry of product in public water, sewers or soil.</li> <li>Notify authorities if product enters sewers or public waters.</li> </ul>
6.3. Methods and material for cor	ntainment and cleaning up
Methods for Cleaning Up	: Collect the spillage in closable, suitable disposal containers. Clean up any spills as soon as possible, using an inert absorbent material. Residue is to be washed down with plenty of water.

### 6.4. Reference to other sections

For personal protection, see section 8.

For the removal of the waste product, see section 13.



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### 7. Handling and storage

#### 7.1. Precautions for safe handling Handling : Avoid breathing vapour and contact with skin, eyes and clothing. Wear recommended personal protective equipment. (See section 8) Wash hands before and after working with the product. When using, do not eat, drink or smoke. Emergency eye wash fountains and showers should be available in the immediate vicinity of any potential exposure. 7.2. Conditions for safe storage, including any incompatibilities Storage : Keep only in the original, safely locked container in a well ventilated, cool and dark place. All dangerous products should be placed on a drip tray or should be barreled. Store away from all heat sources, including direct sunlight. Keep away from : Strong oxidizing agents . Protection against Fire and Explosion : Remove all sources of ignition (open fire, sparks, smoking, ...). Vapour is heavier than air and spreads along the ground with risk of ignition on distance. Do not use compressed air to either agitate or transfer contents of storage containers (tanks) / shipping drums containing this material. Take measures against electrostatic discharges. Use explosionproof equipment. Sufficiently earthen. Packaging Material : Carbon steel, Stainless steel, Polyethylene, Polypropylene, Teflon, Polyester. Insuitable Packaging Material : Natural rubber , Butyl rubber , EPDM, Polystyrene .

### 7.3. Specific end use(s)

For identified uses, see subsection 1.2 and/or exposure scenarios.

### 8. Exposure controls/personal protection

#### 8.1. Control parameters

Occupational Exposure Limits	: Hydrocarbons C7-C9, n-alkanes, isoalkanes, cyclics : Recommended limit (RCP- TWA) (Producer) : 260 ppm (1200 mg/m³) ( Total hydrocarbons )
Biological limit values	: They will be included when available.
DNELs	<ul> <li>Hydrocarbons C7-C9, n-alkanes, isoalkanes, cyclics : Worker, long-term - local effects, inhalation : 2035 mg/m<sup>3</sup></li> <li>Hydrocarbons C7-C9, n-alkanes, isoalkanes, cyclics : Worker, long-term - systemic effects, inhalation : 2035 mg/m<sup>3</sup></li> <li>Hydrocarbons C7-C9, n-alkanes, isoalkanes, cyclics : Worker, long-term - systemic effects, dermal : 773 mg/kg bw/ day</li> <li>Hydrocarbons C7-C9, n-alkanes, isoalkanes, cyclics : Consumer, long-term - local effects, oral : 699 mg/kg</li> <li>Hydrocarbons C7-C9, n-alkanes, isoalkanes, cyclics : Consumer, long-term - local effects, oral : 699 mg/kg</li> <li>Hydrocarbons C7-C9, n-alkanes, isoalkanes, cyclics : Consumer, long-term - systemic effects, inhalation : 608 mg/m<sup>3</sup></li> <li>Hydrocarbons C7-C9, n-alkanes, isoalkanes, cyclics : Consumer, long-term - systemic effects, dermal : 699 mg/kg bw/ day</li> <li>Hydrocarbons C7-C9, n-alkanes, isoalkanes, cyclics : Consumer, long-term - systemic effects, dermal : 699 mg/kg bw/ day</li> <li>Hydrocarbons C7-C9, n-alkanes, isoalkanes, cyclics : Consumer, long-term - systemic effects, dermal : 699 mg/kg bw/ day</li> </ul>
PNECs	: Not applicable.
8.2. Exposure controls	
Engineering Measures	: Ventilation , Local exhaust .
Personal Protection Equipment	

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### 8. Exposure controls/personal protection (continued)

- Respiratory protection	: CE-approved mask for organic vapours and solvents (type A, brown).
- Skin protection	: Suitable protective clothing . (Anti-static)
- Hand protection	: Suitable material for safety gloves (EN 374): Nitril rubber : penetration time > 480' - thickness 0,40 mm
- Eye/Face protection	: Closed safety glasses or face shield.
Environmental exposure controls	: See sections 6, 7, 12 en 13.

### 9. Physical and chemical properties

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### 9.1. Information on basic physical and chemical properties

: Liquid .
: Clear , Colourless .
: Weak petroleum odour odour.
: No data available.
: Not applicable.
: < -20 °C
: 90 - 165 °C
: 1 °C
: P1
: 1,9 ( n-Butyl acetate = 1) 6 ( Diethyl ether =1)
: 0,6 - 7,0 vol.%
: 1,5 kPa (0°C)
3,5 kPa (20°C)
12 kPa (50°C)
: > 1 (101 kPa)
: 0,710 - 0,780 kg/l (15°C)
: Insoluble .
: Aliphatic hydrocarbons , Aromatic hydrocarbons .
: Not established.
: > 200 °C
: No data available.
: No data available.
: 0,76 mm²/s ( Kinematic )
: No chemical groups associated with explosive properties .
: No chemical groups associated with oxidizing properties .
: 21,9 mN/m
: 0,9 pS/m
: 0,00114 v/v °C
: 85

### 10. Stability and reactivity

### 10.1. Reactivity



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0. Stability and reactivity (c	continued)		
Reactivity	:Reacts with:Strong oxidizing agents.		
10.2. Chemical stability			
Stability	: Stable at normal circumstances .		
10.3. Possibility of hazardous rea	actions		
Hazardous reactions	: Not known .		
10.4. Conditions to avoid			
Conditions to avoid	: High temperatures .		
10.5. Incompatible materials			
Materials to avoid	: Strong oxidizing agents .		
10.6. Hazardous decomposition	products		
Hazardous Decomposition Products	: Does not decompose at room temperature . Fire may liberate carbon oxides (CO) and smoke.		

## 11. Toxicological information

11.1. Information on toxicological	<u>effects</u>
Acute toxicity	
- Inhalation	<ul> <li>Minimal toxicity.</li> <li>Exposure to high concentrations may cause lowering of consciousness.</li> <li>Symptoms include: Dizziness, Headache, Nausea, Unconsciousness.</li> <li>Hydrocarbons C7-C9, n-alkanes, isoalkanes, cyclics : LC50 (Rat, inhalation, 4 h) : 23,3 mg/l</li> </ul>
- Skin contact	<ul> <li>Irritating to skin.</li> <li>Symptoms include: Redness, Pain.</li> <li>Hydrocarbons C7-C9, n-alkanes, isoalkanes, cyclics : LD50 (Rabbit, dermal) : &gt; 2800 mg/kg</li> </ul>
- Eye contact	: Slight, short-term discomfort of the eyes .
- Ingestion	<ul> <li>After swallowing, some drops of liquid can enter the longs (aspiration), which may cause pneumonia.</li> <li>Hydrocarbons C7-C9, n-alkanes, isoalkanes, cyclics : LD50 (Rat, oral) : &gt; 5000 mg/kg</li> </ul>
Skin corrosion/irritation	: Repeated exposure may cause skin dryness or cracking.
Serious eye damage/irritation	: Not irritant .
Aspiration hazard	: May be fatal if swallowed and enters airways.
Respiratory or skin sensitisation	: Not sensitive .
Carcinogenicity	: Not listed as carcinogenic .
Mutagenicity	: Not listed as mutagenic .
Reproductive toxicity	: Not listed for reproductive toxicity .
Specific target organ toxicity - single exposure	: To human : Vapours may cause drowsiness and dizziness.
Specific target organ toxicity - repeated exposure	: To human : Listed not for organ toxicity . For animals : Effects on kidneys.

## 12. Ecological information

### 12.1. Toxicity



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2. Ecological information (co	ontinued)
Ecotoxicity	<ul> <li>Hydrocarbons C7-C9, n-alkanes, isoalkanes, cyclics : EC50 (Daphnia magna, 48 h) : 4,6 mg/l</li> <li>Hydrocarbons C7-C9, n-alkanes, isoalkanes, cyclics : EC50 (Algae, 72 h) : 10 mg l (Pseudokirchneriella subcapitata)</li> <li>Hydrocarbons C7-C9, n-alkanes, isoalkanes, cyclics : LC50 (Fish, 96 h) : 3-10 mg/l (Oncorhynchus mykiss)</li> </ul>
12.2. Persistence and degradabilit	<u>Y</u>
Persistence and degradability	<ul> <li>Hydrocarbons C7-C9, n-alkanes, isoalkanes, cyclics : Persistence and degradability : Expected to be easily biodegradable.</li> </ul>
12.3. Bioaccumulative potential	
Bioaccumulation	: • Hydrocarbons C7-C9, n-alkanes, isoalkanes, cyclics : Bioaccumulation : No data available.
<u>12.4. Mobility in soil</u>	
Mobility	: • Hydrocarbons C7-C9, n-alkanes, isoalkanes, cyclics : Mobility : Floats on the water .
12.5. Results of PBT and vPvB as	sessment
Evaluation	: • Hydrocarbons C7-C9, n-alkanes, isoalkanes, cyclics : PBT/vPvB : No
12.6. Other adverse effects	
WGK class (DE)	:2(Water pollutant).
Photochemical ozone creation potential	: No data available.
Ozone depletion potential	: No data available.
Endocrine disrupting potential	: No data available.
Global warming potential	: No data available.

## 13. Disposal considerations

13.1. Waste treatment methods	
Waste from residues/Unused products	: The product has to be destroyed according to national or local legislation, by a company specialised in handling hazardous waste products.
European list of waste products	: XXXXXX - European waste product code. This code is assigned on the basis of the most current applications and can not be representative for pollutions which are arisen at the effective use of the product. The producer of the waste has to evaluate its process himself and has to grant the appropriate waste coding. See Decision 2001/118/EC.
Removal contaminated packaging	<ul> <li>Packing is to be used exclusively for the packing of this product.</li> <li>After use, empty and close the packing very carefully.</li> <li>In case of returned packing, the empty packing can be offered back to the supplier.</li> </ul>

### 14. Transport information

<u>14.1. UN number</u>	
UN Number	: 3295
14.2. UN proper shipping name	
ADR Name	: UN 3295 Hydrocarbons, liquid, n.o.s., (contains Hydrocarbons C7-C9, n-alkanes, isoalkanes, cyclics), 3, II, (D/E), SP 640D
ADN Name	: UN 3295 Hydrocarbons, liquid, n.o.s. , ( Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics ), 3, II



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4. Transport information (co	ontinued)
IMDG Name	: UN 3295 Hydrocarbons, liquid, n.o.s. , (contains Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics), 3, II, (1°C), MARINE POLLUTANT
14.3. Transport hazard classe(s)	
Class	: 3
14.4. Packing group	
Packaging Group	: II
14.5. Environmental hazards	
Environmentally hazard	: Yes
Marine pollutant	: Yes
14.6. Special precautions for use	<u>r</u>
Danger number	: 33
Hazard Label(s)	: 3
EmS-N°	: F-E , S-D
14.7. Transport in bulk according	to Annex II of MARPOL 73/78 and the IBC Code
Type ship	: 2
Pollution category	: X

## 15. Regulatory information

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Inventories	<ul> <li>Australian inventory (AICS): Listed in inventory.</li> <li>Canadian inventory (DSL): Listed in inventory.</li> <li>Chinese inventory (IECS): Listed in inventory.</li> <li>European inventory (EINECS): Listed in inventory.</li> <li>Korean inventory (KECI): Listed in inventory.</li> <li>Philippine inventory (PICCS): Listed in inventory.</li> <li>Inventory of the United States (TSCA): Listed in inventory.</li> </ul>
Relevant EU Rule(s)	<ul> <li>Directive 96/82/EC of the Council of 9 December 1996 on the control of major-accident hazards involving dangerous substances</li> <li>Directive 98/24/EC of the Council of 7 April 1998 on the protection of the health an safety of workers from the risks related to chemical agents at work</li> <li>Directive 1999/13/EC of the Council of 11 March 1999 on the limitation of emissions of volatile organic compounds due to the use of organic solvents in certain activities and installations</li> <li>Directive 2004/42/CE of the European Parliament and of the Council of 21 April 2004 on the limitation of emissions of volatile organic compounds due to the use or organic solvents in certain paints and varnishes and vehicle refinishing products and amending Directive 1999/13/EC</li> <li>Decision 2001/118/EC of the Commission of 16 January 2001 amending Decision 2000/532/EC as regards the list of wastes</li> <li>Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 1 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006</li> <li>Regulation (EU) No 453/2010 of 20 May 2010 amending Regulation (EC) No 1907/2006</li> <li>Regulation (EU) No 453/2010 of 20 May 2010 amending Regulation, Evaluation, Authorisation and Restriction of Chemicals (Reach)</li> </ul>

15.2. Chemical Safety Assessment

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### 15. Regulatory information (continued)

A chemical safety assessment has been carried out for the substance(s) that make up this material or for the material itself.

### 16. Other information

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This safety data sheet has been drawn up in accordance with Regulation (EU) No 453/2010. This safety data sheet is exclusively made for industrial/professional use.

Sources of used key data	: The information contained herein is based on the present state of our knowledge ( Producer(s),). See also on the webaddress: http://apps.echa.europa.eu/registered/registered-sub.aspx#search
R-phrase(s)	<ul> <li>R11 - Highly flammable.</li> <li>R51/53 - Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.</li> <li>R65 - Harmful : may cause lung damage if swallowed.</li> <li>R66 - Repeated exposure may cause skin dryness or cracking.</li> <li>R67 - Vapours may cause drowsiness and dizziness.</li> </ul>
(EU)H-statement(s)	<ul> <li>H225 - Highly flammable liquid and vapour.</li> <li>H304 - May be fatal if swallowed and enters airways.</li> <li>H336 - May cause drowsiness or dizziness.</li> <li>H411 - Toxic to aquatic life with long lasting effects.</li> <li>EUH066 - Repeated exposure may cause skin dryness or cracking.</li> </ul>
List of abbrevations and acronyms	: ADN (Accord européen relatif au transport international des marchandises Dangereuses par voie de Navigation interieur) : European agreement concerning the international carriage of dangerous goods by inland waterways ADR (Accord européen relatif au transport international des marchandises Dangereuses par Route) : European agreement concerning the international carriage of dangerous goods by road CO : Carbon monoxide DNEL (Derived No Effect Level) : an estimated safe exposure level EmS (Emergency Schedule) : the first code refers to the relevant fire schedule and the second code refers to the relevant spillage schedule IMDG (International Maritime Dangerous Goods code) NVCI : National Poisoning Information Center PBT : persistent, bioaccumulative and toxic PNEC (Predicted No Effect Concentration) : concentration below which exposure to a substance is not expected to cause adverse effects REACH : Registration, Evaluation, Authorisation and restriction of Chemicals vPvB : very persistent and very bioaccumulative WGK (Wassergefahrdungsklasse) : a German classification of substances that indicate the environmental hazard for surface water

This information is to our knowledge correct and complete on the date of issue of this safety data sheet. The information only concerns the product and does not give any guarantee for the quality and the completeness of the properties of the product, or in case of mixing or using in any other process. It remains the responsibility of the user to assure himself that the information is suitable and complete concerning the special use he makes of the product.

BRENNTAG denies all responsibility for loss or damage resulting from the use of these data.

End of document



# Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics

Version 1.2

Print Date 06.10.2014

	Short title	Group (SU)	of Use (SU)	Category (PC)	Process Category (PROC)	ental Release Category (ERC)	Article Category (AC)	Specified
1	Manufacture of substance	3	8, 9	NA	1, 2, 3, 4, 8a, 8b, 15	1, 4	NA	ES5247
2	Distribution of substance	з	8, 9	NA	1, 2, 3, 4, 8a, 8b, 9, 15	1, 2, 3, 4, 5, 6a, 6b, 6c, 6d, 7	NA	ES5250
3	Formulation & (re)packing of substances and mixtures	3	10	NA	1, 2, 3, 4, 5, 8a, 8b, 9, 14, 15	2	NA	ES5252
4	Rubber production and processing	3	10, 11	NA	1, 2, 3, 4, 5, 6, 7, 8a, 8b, 9, 13, 14, 15, 21	1, 4, 6d	NA	ES5270
5	Polymer processing	3	10	NA	1, 2, 3, 4, 5, 6, 8a, 8b, 9, 13, 14, 21	4	NA	ES5273
6	Uses in coatings	3	NA	NA	1, 2, 3, 4, 5, 7, 8a, 8b, 9, 10, 13, 14, 15	4	NA	ES5254
7	Uses in coatings	22	NA	NA	1, 2, 3, 4, 5, 8a, 8b, 10, 11, 13, 15, 19	8a, 8d	NA	ES5275
8	Uses in coatings	21	NA	1, 4, 8, 9a, 9b, 9c, 15, 18, 23, 24, 31, 34	NA	8a, 8d	NA	E\$5295
9	Use in Cleaning Agents	3	NA	NA	1, 2, 3, 4, 7, 8a, 8b, 10, 13	4	NA	ES5256
10	Use in Cleaning Agents	22	NA	NA	1, 2, 3, 4, 8a, 8b, 10, 11, 13	8a, 8d	NA	ES5277
11	Use in Cleaning Agents	21	NA	3, 4, 8, 9a, 9b, 9c, 24, 35, 38	NA	8a, 8d	NA	ES5542
12	Use as binders and release agents	3	NA	NA	1, 2, 3, 4, 6, 7, 8b, 10, 13, 14	4	NA	ES5262
13	Use as binders and	22	NA	NA	1, 2, 3, 4,	8a, 8d	NA	ES5284



# Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics

Version 1.2

Print Date 06.10.2014

Revision date / valid from 06.10.2014

			-	-				
	release agents				6, 8a, 8b, 10, 11, 14			
14	Use as a fuel	3	NA	NA	1, 2, 3, 8a, 8b, 16	7	NA	ES5264
15	Use as a fuel	22	NA	NA	1, 2, 3, 8a, 8b, 16	9a, 9b	NA	ES5286
16	Use as a fuel	21	NA	13	NA	9a, 9b	NA	ES5535
17	Use as lubricants	3	NA	NA	1, 2, 3, 4, 7, 8a, 8b, 9, 10, 13, 17, 18	4, 7	NA	ES5258
18	Use as lubricants	22	NA	NA	1, 2, 3, 4, 8a, 8b, 9, 10, 11, 13, 17, 18, 20	8a, 8d, 9a, 9b	NA	ES5279
19	Use as lubricants	21	NA	1, 24, 31	NA	8a, 8d, 9a, 9b	NA	ES5520
20	Use as Functional Fluids	3	NA	NA	1, 2, 3, 4, 8a, 8b, 9	7	NA	ES5266
21	Use as Functional Fluids	22	NA	NA	1, 2, 3, 8a, 9, 20	9a, 9b	NA	ES5288
22	Use as Functional Fluids	21	NA	16, 17	NA	9a, 9b	NA	ES5533
23	Use in laboratories	3	NA	NA	10, 15	2, 4	NA	ES5268
24	Use in laboratories	22	NA	NA	10, 15	8a	NA	ES5292
25	Use in metal working fluids / rolling oils	3	NA	NA	1, 2, 3, 4, 5, 7, 8a, 8b, 9, 10, 13, 17	4	NA	ES5260
26	Use in metal working fluids / rolling oils	22	NA	NA	1, 2, 3, 8a, 8b, 9, 10, 11, 13, 17	8a, 8d	NA	ES5282
27	Use in road and construction applications	22	NA	NA	8a, 8b, 10, 11, 13	8d, 8f	NA	ES5290
28	Other consumer uses	21	NA	28, 39	NA	8a, 8d	NA	ES7865

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## Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics

Version 1.2

Print Date 06.10.2014

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### 1. Short title of Exposure Scenario 1: Manufacture of substance

Main User Groups	SU 3: Industrial uses: Uses of substances as such or in preparations at industri sites			
Sectors of end-use	SU8: Manufacture of bulk, large scale chemicals (including petroleum products) SU9: Manufacture of fine chemicals			
Process categories	<ul> <li>PROC1: Use in closed process, no likelihood of exposure</li> <li>PROC2: Use in closed, continuous process with occasional controlled exposure</li> <li>PROC3: Use in closed batch process (synthesis or formulation)</li> <li>PROC4: Use in batch and other process (synthesis) where opportunity for</li> <li>exposure arises</li> <li>PROC8a: Transfer of substance or preparation (charging/discharging) from/to</li> <li>vessels/large containers at non-dedicated facilities</li> <li>PROC8b: Transfer of substance or preparation (charging/discharging) from/to</li> <li>vessels/large containers at dedicated facilities</li> <li>PROC15: Use as laboratory reagent</li> </ul>			
Environmental Release Categories	ERC1: Manufacture of substances ERC4: Industrial use of processing aids in processes and products, not becoming part of articles			
Activity	Manufacture of the substance or use as a process chemical or extraction agent within closed or contained systems. Includes incidental exposures during recycling/ recovery, material transfers, storage, sampling, associated laboratory activities, maintenance and loading (including marine vessel/barge, road/rail car and bulk container)			

### 2.1 Contributing scenario controlling environmental exposure for: ERC1, ERC4

	Maximum daily site tonnage (kg/day):	45000 kg/day
	Regional use tonnage (tons/year):	4500 ton(s)/year
Amount used	Fraction of EU tonnage used in region:	0,1
	Fraction of Regional tonnage used locally:	1
	Annual site tonnage (tons/year):	4500 ton(s)/year
Frequency and duration of use	Continuous exposure	100 days/year
Environment factors not	Dilution Factor (River)	10
influenced by risk management	Dilution Factor (Coastal Areas)	100
Other given operational	Emission or Release Factor: Air	5,0 .10-2
conditions affecting environmental exposure	Emission or Release Factor: Water	3,0 .10-5
	1	1

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# Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics

Version 1.2

Print Date 06.10.2014

	Emission or Release Factor: Soil	1,0 .10-4			
	initial release prior to RMM				
	Air	Treat air emission to provide a typical removal efficiency of (%): (Efficiency: 90 %)			
Technical conditions and	Water	No wastewater treatment required.			
measures at process level (source) to prevent release	Water	If discharging to domestic sewage treatment plant, no onsite wastewater treatment required.			
Technical onsite conditions and measures to reduce or limit discharges, air emissions and	Water	Prevent discharge of undissolved substance to or recover from onsite wastewater.			
releases to soil Organizational measures to	Sediment	Risk from environmental exposure is driven by freshwater sediment.			
prevent/limit release from the site	Common practices vary ac estimates used.	ross sites thus conservative process release			
	Type of Sewage Treatment Plant	Domestic sewage treatment plant			
	Flow rate of sewage treatment plant effluent	10.000 m3/d			
Conditions and measures related	Degradation efficiency	96,2 %			
to sewage treatment plant	Percentage removed from waste water	96,2 %			
	Sludge Treatment	Do not apply industrial sludge to natural soils., Sludge should be incinerated, contained or reclaimed.			
Conditions and measures related to external treatment of waste for disposal	Waste treatment	During manufacturing no waste of the substance is generated.			
Conditions and measures related o external recovery of waste	Recovery Methods	During manufacturing no waste of the substance is generated.			
2.2 Contributing scenario co PROC8a, PROC8b, PROC		re for: PROC1, PROC2, PROC3, PROC4,			
	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 % (unless stated differently).			
Product characteristics	Physical Form (at time of use)	liquid			
	Vapour pressure	0,5 - 10 kPa			
Frequency and duration of use	Frequency of use	8 hours/day			
Other operational conditions affecting workers exposure	Assumes use at not more t differently.	han 20°C above ambient temperature, unless stated			
	General exposures	Use all substance within a slaved sustant (DDOO1)			
Technical conditions and measures to control dispersion	(closed systems)	Handle substance within a closed system.(PROC1)			



## Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics

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from source towards the worker	General exposures (closed systems) Use in contained batch processes	Handle substance within a closed system.(PROC2)
	Storage	Store substance within a closed system.(PROC1, PROC2)

### 3. Exposure estimation and reference to its source

### Environment

Contributing Scenario	Specific conditions	Compartment	Value	Level of Exposure	RCR
			Msafe	4300000 kg/day	

ESVOC spERC 1.1v1 has been used to evaluate the exposure for the environment.

### Workers

The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

# 4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

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.

Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-forindustries-libraries.html).

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

For further information on the assessment method, see: http://www.ecetoc.org/tra

Only properly trained persons shall make use of scaling methods while checking whether the OC and RMM are within the boundaries set by the ES

Additional good practice advice beyond the REACH Chemical Safety Assessment

Assumes a good basic standard of occupational hygiene is implemented.



## Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics

Version 1.2

Print Date 06.10.2014

Revision date / valid from 06.10.2014

### 1. Short title of Exposure Scenario 2: Distribution of substance

Main User Groups	SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites
Sectors of end-use	SU8: Manufacture of bulk, large scale chemicals (including petroleum products) SU9: Manufacture of fine chemicals
Process categories	PROC1: Use in closed process, no likelihood of exposure PROC2: Use in closed, continuous process with occasional controlled exposure PROC3: Use in closed batch process (synthesis or formulation) PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities PROC8b: Transfer of substance or preparation into small containers (dedicated filling line, including weighing) PROC15: Use as laboratory reagent
Environmental Release Categories	<ul> <li>ERC1: Manufacture of substances</li> <li>ERC2: Formulation of preparations</li> <li>ERC3: Formulation in materials</li> <li>ERC4: Industrial use of processing aids in processes and products, not becoming part of articles</li> <li>ERC5: Industrial use resulting in inclusion into or onto a matrix</li> <li>ERC6a: Industrial use resulting in manufacture of another substance (use of intermediates)</li> <li>ERC6b: Industrial use of reactive processing aids</li> <li>ERC6c: Industrial use of monomers for manufacture of thermoplastics</li> <li>ERC6d: Industrial use of process regulators for polymerisation processes in production of resins, rubbers, polymers</li> <li>ERC7: Industrial use of substances in closed systems</li> </ul>

# 2.1 Contributing scenario controlling environmental exposure for: ERC1, ERC2, ERC3, ERC4, ERC5, ERC6a, ERC6b, ERC6c, ERC6d, ERC7

	Maximum daily site tonnage (kg/day):	42 kg/day
	Regional use tonnage (tons/year):	422 ton(s)/year
Amount used	Fraction of EU tonnage used in region:	0,1
	Fraction of Regional tonnage used locally:	0,002
	Annual site tonnage (tons/year):	0,84 ton(s)/year
Frequency and duration of use	Continuous exposure	20 days/year
Environment factors not	Dilution Factor (River)	10
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# Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics

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influenced by risk management	Dilution Factor (Coastal Areas)	100
	Emission or Release Factor: Air	1,0 .10-3
Other given operational conditions affecting	Emission or Release Factor: Water	1,0 .10-6
environmental exposure	Emission or Release Factor: Soil	1,0 .10-5
	initial release prior to RMM	
	Air	Treat air emission to provide a typical removal efficiency of (%): (Efficiency: 90 %)
Technical conditions and	Water	No wastewater treatment required.
measures at process level (source) to prevent release	Water	If discharging to domestic sewage treatment plant, no onsite wastewater treatment required.
Technical onsite conditions and measures to reduce or limit discharges, air emissions and	Water	Prevent discharge of undissolved substance to or recover from onsite wastewater.
releases to soil Organizational measures to	Water	Risk from environmental exposure is driven by freshwater.
prevent/limit release from the site	Common practices vary ac estimates used.	ross sites thus conservative process release
		1
	Type of Sewage Treatment Plant	Domestic sewage treatment plant
	Flow rate of sewage treatment plant effluent	2.000 m3/d
Conditions and measures related	Degradation efficiency	96,2 %
to sewage treatment plant	Percentage removed from waste water	96,2 %
	Sludge Treatment	Do not apply industrial sludge to natural soils., Sludge should be incinerated, contained or reclaimed.
Conditions and measures related to external treatment of waste for disposal	Waste treatment	External treatment and disposal of waste should comply with applicable local and/or national regulations.
Conditions and measures related to external recovery of waste	Recovery Methods	External recovery and recycling of waste should comply with applicable local and/or national regulations.
2.2 Contributing scenario co PROC8a, PROC8b, PROC		re for: PROC1, PROC2, PROC3, PROC4,
Product characteristics	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 % (unless stated differently).
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## Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics

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	Physical Form (at time of use)	liquid
	Vapour pressure	0,5 - 10 kPa
Frequency and duration of use	Frequency of use	8 hours/day
Other operational conditions affecting workers exposure	Assumes use at not more than 20°C above ambient temperature, unless differently.	
	General exposures (closed systems)	Handle substance within a closed system.(PROC1)
Technical conditions and measures to control dispersion from source towards the worker	General exposures (closed systems)	Handle substance within a closed system.(PROC2)
	General exposures (closed systems)	Handle substance within a closed system.(PROC3)
	Storage	Store substance within a closed system. Transfer via enclosed lines.(PROC1, PROC2)

### 3. Exposure estimation and reference to its source

### Environment

Contributing Scenario	Specific conditions	Compartment	Value	Level of Exposure	RCR
			Msafe	620000 kg/day	
ESVOC spERC	1.1b.v1 has been used to	evaluate the exposure	e for the environm	ent.	

### Workers

The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

# 4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

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.

Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-forindustries-libraries.html).

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

For further information on the assessment method, see: http://www.ecetoc.org/tra

Only properly trained persons shall make use of scaling methods while checking whether the OC and RMM are within the boundaries set by the ES

### Additional good practice advice beyond the REACH Chemical Safety Assessment

Assumes a good basic standard of occupational hygiene is implemented.

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# Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics

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1. Short title of Exposure So	enario 3: Formulation &	(re)packing of substances and mixtures	
Main User Groups	SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites		
Sectors of end-use	SU 10: Formulation [mixing] of preparations and/ or re-packaging (excluding alloys)		
Process categories	PROC2: Use in closed, co PROC3: Use in closed ba PROC4: Use in batch and exposure arises PROC5: Mixing or blendir and articles (multistage an PROC8a: Transfer of sub vessels/large containers a PROC8b: Transfer of sub vessels/large containers a PROC9: Transfer of subst filling line, including weighi	stance or preparation (charging/discharging) from/to t non-dedicated facilities stance or preparation (charging/discharging) from/to t dedicated facilities tance or preparation into small containers (dedicated ing) reparations or articles by tabletting, compression,	
Environmental Release Categories	ERC2: Formulation of pre	parations	
2.1 Contributing scenario co	ontrolling environmenta	l exposure for: ERC2	
	Maximum daily site tonnage (kg/day):	1200 kg/day	
	Regional use tonnage (tons/year):	120 ton(s)/year	
Amount used	Fraction of EU tonnage used in region:	0,1	
	Fraction of Regional tonnage used locally:	1	
	Annual site tonnage (tons/year):	120 ton(s)/year	
Frequency and duration of use	Continuous exposure	100 days/year	
Environment factors not	Dilution Factor (River)	10	
influenced by risk management	Dilution Factor (Coastal Areas)	100	
Other given operational	Emission or Release Factor: Air	2,5 .10-2	
conditions affecting environmental exposure	Emission or Release Factor: Water	2,0 .10-5	
	Emission or Release	1,0 .10-4	



# Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics

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	Factor: Soil		
	initial release prior to RMM		
	Air	Treat air emission to provide a typical removal efficiency of (%): (Efficiency: 0 %)	
Technical conditions and	Water	No wastewater treatment required.	
neasures at process level source) to prevent release	Water	If discharging to domestic sewage treatment plant, no onsite wastewater treatment required.	
Fechnical onsite conditions and neasures to reduce or limit discharges, air emissions and	Water	Prevent discharge of undissolved substance to or recover from onsite wastewater.	
releases to soil Drganizational measures to	Sediment	Risk from environmental exposure is driven by freshwater sediment.	
prevent/limit release from the site	Common practices vary ac estimates used.	ross sites thus conservative process release	
	Type of Sewage Treatment Plant	Domestic sewage treatment plant	
	Flow rate of sewage treatment plant effluent	2.000 m3/d	
Conditions and measures related to sewage treatment plant	Degradation efficiency	96,2 %	
	Percentage removed from waste water	96,2 %	
	Sludge Treatment	Do not apply industrial sludge to natural soils., Sludge should be incinerated, contained or reclaimed.	
Conditions and measures related o external treatment of waste for disposal	Waste treatment	External treatment and disposal of waste should comply with applicable local and/or national regulations.	
Conditions and measures related o external recovery of waste	Recovery Methods	External recovery and recycling of waste should comply with applicable local and/or national regulations.	
2.2 Contributing scenario co PROC5, PROC8a, PROC8		re for: PROC1, PROC2, PROC3, PROC4, DC15	
	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 % (unless stated differently).	
Product characteristics	Physical Form (at time of use)	liquid	
	Vapour pressure	0,5 - 10 kPa	
requency and duration of use	Frequency of use	8 hours/day	
Other operational conditions offecting workers exposure	Assumes use at not more t differently.	han 20°C above ambient temperature, unless stated	
Fechnical conditions and neasures to control dispersion	General exposures	Handle substance within a closed system.(PROC1)	
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## Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics

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from source towards the worker	(closed systems)	
	General exposures (closed systems)	Handle substance within a closed system.(PROC2)
	General exposures (closed systems)	Handle substance within a closed system.(PROC3)
	Storage	Store substance within a closed system.(PROC1, PROC2)

### 3. Exposure estimation and reference to its source

### Environment

Contributing Scenario	Specific conditions	Compartment	Value	Level of Exposure	RCR
			Msafe	1300000 kg/day	
ESV/OC spERC	ESV/OC spERC 2.2 v1 has been used to evaluate the exposure for the environment				

ESVOC spERC 2.2.v1 has been used to evaluate the exposure for the environment.

### Workers

The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

# 4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

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.

Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-forindustries-libraries.html).

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

For further information on the assessment method, see: http://www.ecetoc.org/tra

Only properly trained persons shall make use of scaling methods while checking whether the OC and RMM are within the boundaries set by the ES

### Additional good practice advice beyond the REACH Chemical Safety Assessment

Assumes a good basic standard of occupational hygiene is implemented.



# Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics

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Main User Groups	SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites			
Sectors of end-use	SU 10: Formulation [mixing] of preparations and/ or re-packaging (excluding alloys) SU11: Manufacture of rubber products			
Process categories	PROC1: Use in closed process, no likelihood of exposure PROC2: Use in closed, continuous process with occasional controlled exposure PROC3: Use in closed batch process (synthesis or formulation) PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises PROC5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact) PROC6: Calendering operations PROC7: Industrial spraying PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing) PROC13: Treatment of articles by dipping and pouring PROC14: Production of preparations or articles by tabletting, compression, extrusion, pelettisation PROC15: Use as laboratory reagent PROC21: Low energy manipulation of substances bound in materials and/or articles			
Environmental Release Categories	ERC4: Industrial use of pro part of articles	ERC6d: Industrial use of process regulators for polymerisation processes in		
2.1 Contributing scenario	controlling environmenta	l exposure for: ERC1, ERC4, ERC6d		
	Maximum daily site tonnage (kg/day):	250 kg/day		
	Regional use tonnage (tons/year):	5 ton(s)/year		
Amount used	Fraction of EU tonnage used in region:	0,1		
	Fraction of Regional tonnage used locally:	1		
	Annual site tonnage (tons/year):	5 ton(s)/year		
Frequency and duration of use	Continuous exposure 20 days/year			



## Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics

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Environment factors not	Dilution Factor (River)	10
influenced by risk management	Dilution Factor (Coastal Areas)	100
	Emission or Release Factor: Air	1,0 .10-2
Other given operational conditions affecting	Emission or Release Factor: Water	3,0 .10-5
environmental exposure	Emission or Release Factor: Soil	1,0 .10-4
	initial release prior to RMN	Λ
	Air	Treat air emission to provide a typical removal efficiency of (%): (Efficiency: 0 %)
Technical conditions and	Water	No wastewater treatment required.
measures at process level (source) to prevent release	Water	If discharging to domestic sewage treatment plant, no onsite wastewater treatment required.
Technical onsite conditions and measures to reduce or limit discharges, air emissions and	Water	Prevent discharge of undissolved substance to or recover from onsite wastewater.
releases to soil Organizational measures to	Sediment	Risk from environmental exposure is driven by freshwater sediment.
prevent/limit release from the site	Common practices vary ac estimates used.	cross sites thus conservative process release
		1
	Type of Sewage Treatment Plant	Domestic sewage treatment plant
	Flow rate of sewage treatment plant effluent	2.000 m3/d
Conditions and measures related	Degradation efficiency	96,2 %
to sewage treatment plant	Percentage removed from waste water	96,2 %
	Sludge Treatment	Do not apply industrial sludge to natural soils., Sludge should be incinerated, contained or reclaimed.
Conditions and measures related to external treatment of waste for disposal	Waste treatment	External treatment and disposal of waste should comply with applicable local and/or national regulations.
Conditions and measures related to external recovery of waste	Recovery Methods	External recovery and recycling of waste should comply with applicable local and/or national regulations.

PROC5, PROC6, PROC7, PROC8a, PROC8b, PROC9, PROC13, PROC14, PROC15, PROC21

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## Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics

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Product characteristics	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 % (unless stated differently).	
	Physical Form (at time of use)	liquid	
	Vapour pressure	0,5 - 10 kPa	
Frequency and duration of use	Frequency of use	8 hours/day	
Other operational conditions affecting workers exposure	Assumes use at not more than 20°C above ambient temperature, unless stated differently.		
Technical conditions and	Bulk weighing	Handle substance within a closed system.(PROC1)	
Technical conditions and measures to control dispersion from source towards the worker	Bulk weighing	Handle substance within a closed system.(PROC2)	
	Storage	Store substance within a closed system.(PROC1, PROC2)	

### 3. Exposure estimation and reference to its source

### Environment

Contributing Scenario	Specific conditions	Compartment	Value	Level of Exposure	RCR
			Msafe	850000 kg/day	
ESVOC spERC 4.19a.v1 has been used to evaluate the exposure for the environment.					

### Workers

The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

# 4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

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.

Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-forindustries-libraries.html).

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

For further information on the assessment method, see: http://www.ecetoc.org/tra

Only properly trained persons shall make use of scaling methods while checking whether the OC and RMM are within the boundaries set by the ES

### Additional good practice advice beyond the REACH Chemical Safety Assessment

Assumes a good basic standard of occupational hygiene is implemented.

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# Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics

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1. Short title of Exposure Sc			
Main User Groups	SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites		
Sectors of end-use	SU 10: Formulation [mixing] of preparations and/ or re-packaging (excluding alloys)		
Process categories	PROC2: Use in closed, cor PROC3: Use in closed bate PROC4: Use in batch and exposure arises PROC5: Mixing or blending and articles (multistage and PROC6: Calendering opera PROC8a: Transfer of subst vessels/large containers at PROC8b: Transfer of subst vessels/large containers at PROC9: Transfer of subst filling line, including weighin PROC13: Treatment of arti PROC14: Production of pre extrusion, pelettisation	ations tance or preparation (charging/discharging) from/to non-dedicated facilities tance or preparation (charging/discharging) from/to dedicated facilities ince or preparation into small containers (dedicated g)	
Environmental Release Categories	ERC4: Industrial use of processing aids in processes and products, not becoming part of articles		
2.1 Contributing scenario co	ontrolling environmental	exposure for: ERC4	
	Maximum daily site tonnage (kg/day):	1600 kg/day	
	Regional use tonnage (tons/year):	32 ton(s)/year	
Amount used	Fraction of EU tonnage used in region:	0,1	
	Fraction of Regional tonnage used locally:	1	
	Annual site tonnage (tons/year):	32 ton(s)/year	
Frequency and duration of use	Continuous exposure	20 days/year	
Environment factors not	Dilution Factor (River)	10	
Environment factors not influenced by risk management	Dilution Factor (Coastal Areas)	100	
Other given operational conditions affecting environmental exposure	Emission or Release Factor: Air	0,5	
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# Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics

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Frequency and duration of use	Frequency of use	8 hours/day
	use) Vapour pressure	0,5 - 10 kPa
Product characteristics	Substance in Mixture/Article Physical Form (at time of	Covers percentage substance in the product up to 100 % (unless stated differently).
2.2 Contributing scenario co PROC5, PROC6, PROC8a		
Conditions and measures related to external recovery of waste	Recovery Methods	comply with applicable local and/or national regulations.
Conditions and measures related to external treatment of waste for disposal	Waste treatment	External treatment and disposal of waste should comply with applicable local and/or national regulations. External recovery and recycling of waste should
	Sludge Treatment	Do not apply industrial sludge to natural soils., Sludge should be incinerated, contained or reclaimed.
Conditions and measures related to sewage treatment plant	Percentage removed from waste water	96,2 %
	Degradation efficiency	96,2 %
	Flow rate of sewage treatment plant effluent	2.000 m3/d
	Type of Sewage Treatment Plant	Domestic sewage treatment plant
prevent/limit release from the site	Common practices vary ac estimates used.	ross sites thus conservative process release
releases to soil Organizational measures to	Water	Risk from environmental exposure is driven by freshwater.
Technical onsite conditions and measures to reduce or limit discharges, air emissions and	Water	Prevent discharge of undissolved substance to or recover from onsite wastewater.
measures at process level (source) to prevent release	Water	If discharging to domestic sewage treatment plant no onsite wastewater treatment required.
Technical conditions and	Water	No wastewater treatment required.
	Air	Treat air emission to provide a typical removal efficiency of (%): (Efficiency: 80 %)
	Factor: Soil initial release prior to RMM	0
	Factor: Water Emission or Release	1,0 .10-5



## Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics

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Other operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated
affecting workers exposure	differently.
Technical conditions and	No other specific measures identified.
measures to control dispersion	
from source towards the worker	

### 3. Exposure estimation and reference to its source

### Environment

Contributing Scenario	Specific conditions	Compartment	Value	Level of Exposure	RCR
			Msafe	24000000 kg/day	
		1 4 41	<b>6 1 1</b>		

ESVOC spERC 4.21a.v1 has been used to evaluate the exposure for the environment.

### Workers

The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

# 4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

For further information on the assessment method, see: http://www.ecetoc.org/tra

Only properly trained persons shall make use of scaling methods while checking whether the OC and RMM are within the boundaries set by the ES

### Additional good practice advice beyond the REACH Chemical Safety Assessment

Assumes a good basic standard of occupational hygiene is implemented.

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# Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics

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	SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites		
PROC2: Use in closed, co PROC3: Use in closed ba PROC4: Use in batch and exposure arises PROC5: Mixing or blendin and articles (multistage an PROC7: Industrial sprayin PROC8a: Transfer of subs vessels/large containers at PROC8b: Transfer of subst vessels/large containers at PROC9: Transfer of subst filling line, including weighi PROC10: Roller applicatio PROC13: Treatment of ar	ng stance or preparation (charging/discharging) from/to t non-dedicated facilities stance or preparation (charging/discharging) from/to t dedicated facilities tance or preparation into small containers (dedicated ing) on or brushing ticles by dipping and pouring reparations or articles by tabletting, compression,		
ERC4: Industrial use of processing aids in processes and products, not becoming part of articles			
ontrolling environmenta	l exposure for: ERC4		
Maximum daily site tonnage (kg/day):	15000 kg/day		
Regional use tonnage (tons/year):	300 ton(s)/year		
Fraction of EU tonnage used in region:	0,1		
Fraction of Regional tonnage used locally:	1		
Annual site tonnage (tons/year):	300 ton(s)/year		
Continuous exposure	20 days/year		
Dilution Factor (River)	10		
Dilution Factor (Coastal Areas)	100		
Emission or Release Factor: Air	9,8 .10-1		
Emission or Release Factor: Water	7,0 .10-5		
	PROC4: Use in batch and exposure arises         PROC5: Mixing or blendin and articles (multistage an PROC7: Industrial sprayin PROC8a: Transfer of subsi- vessels/large containers at PROC8b: Transfer of subsi- filling line, including weighi PROC10: Roller application PROC10: Roller application PROC13: Treatment of ar PROC14: Production of pr extrusion, pelettisation PROC15: Use as laborator         ERC4: Industrial use of pr part of articles         controlling environmental         Maximum daily site tonnage (kg/day):         Regional use tonnage (tons/year):         Fraction of EU tonnage used in region:         Fraction of Regional tonnage used locally:         Annual site tonnage (tons/year):         Continuous exposure         Dilution Factor (River)         Dilution Factor (Coastal Areas)         Emission or Release Factor: Air		



# Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics

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	Emission or Release Factor: Soil	0
	initial release prior to RMM	
	Air	Treat air emission to provide a typical removal efficiency of (%): (Efficiency: 90 %)
Technical conditions and	Water	If discharging to domestic sewage treatment plant, no onsite wastewater treatment required.
measures at process level (source) to prevent release Technical onsite conditions and	Water	Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of (%): (Degradation effectiveness: 8,4 %
measures to reduce or limit discharges, air emissions and releases to soil	Water	Prevent discharge of undissolved substance to or recover from onsite wastewater.
Organizational measures to prevent/limit release from the site	Sediment	Risk from environmental exposure is driven by freshwater sediment.
	Common practices vary ac estimates used.	ross sites thus conservative process release
	Type of Sewage Treatment Plant	Domestic sewage treatment plant
	Flow rate of sewage treatment plant effluent	2.000 m3/d
Conditions and measures related to sewage treatment plant	Degradation efficiency	96,2 %
	Percentage removed from waste water	96,2 %
	Sludge Treatment	Do not apply industrial sludge to natural soils., Sludge should be incinerated, contained or reclaimed.
Conditions and measures related to external treatment of waste for disposal	Waste treatment	External treatment and disposal of waste should comply with applicable local and/or national regulations.
Conditions and measures related to external recovery of waste	Recovery Methods	External recovery and recycling of waste should comply with applicable local and/or national regulations.
		re for: PROC1, PROC2, PROC3, PROC4, C10, PROC13, PROC14, PROC15
	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 % (unless stated differently).
Product characteristics	Physical Form (at time of use)	liquid
	Vapour pressure	0,5 - 10 kPa
Frequency and duration of use	Frequency of use	8 hours/day
Other operational conditions	Assumes use at not more t	han 20°C above ambient temperature, unless stated
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## Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics

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affecting workers exposure	differently.			
Technical conditions and measures to control dispersion from source towards the worker	General exposures (closed systems)	Handle substance within a closed system.(PROC1)		
	General exposures (closed systems) with sample collection	Handle substance within a closed system.(PROC2)		
	Material transfers	Clear transfer lines prior to de-coupling.(PROC8a)		
	Material transfers	Clear transfer lines prior to de-coupling.(PROC8b)		

### 3. Exposure estimation and reference to its source

### Environment

Contributing Scenario	Specific conditions	Compartment	Value	Level of Exposure	RCR
			Msafe	370000 kg/day	
ESVOC spERC 4.3a.v1 has been used to evaluate the exposure for the environment.					

### Workers

The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

# 4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

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.

Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-forindustries-libraries.html).

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

For further information on the assessment method, see: http://www.ecetoc.org/tra

Only properly trained persons shall make use of scaling methods while checking whether the OC and RMM are within the boundaries set by the ES

### Additional good practice advice beyond the REACH Chemical Safety Assessment

Assumes a good basic standard of occupational hygiene is implemented.

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## Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics

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### 1. Short title of Exposure Scenario 7: Uses in coatings

Main User Groups	SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Process categories	<ul> <li>PROC1: Use in closed process, no likelihood of exposure</li> <li>PROC2: Use in closed, continuous process with occasional controlled exposure</li> <li>PROC3: Use in closed batch process (synthesis or formulation)</li> <li>PROC4: Use in batch and other process (synthesis) where opportunity for</li> <li>exposure arises</li> <li>PROC5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact)</li> <li>PROC8a: Transfer of substance or preparation (charging/discharging) from/to</li> <li>vessels/large containers at non-dedicated facilities</li> <li>PROC8b: Transfer of substance or preparation (charging/discharging) from/to</li> <li>vessels/large containers at dedicated facilities</li> <li>PROC10: Roller application or brushing</li> <li>PROC11: Non industrial spraying</li> <li>PROC13: Treatment of articles by dipping and pouring</li> <li>PROC19: Hand-mixing with intimate contact and only PPE available</li> </ul>
Environmental Release Categories	ERC8a: Wide dispersive indoor use of processing aids in open systems ERC8d: Wide dispersive outdoor use of processing aids in open systems

### 2.1 Contributing scenario controlling environmental exposure for: ERC8a, ERC8d

-	-	-
Amount used	Maximum daily site tonnage (kg/day):	0,36 kg/day
	Regional use tonnage (tons/year):	260 ton(s)/year
	Fraction of EU tonnage used in region:	0,1
	Fraction of Regional tonnage used locally:	0,0005
	Annual site tonnage (tons/year):	0,13 ton(s)/year
Frequency and duration of use	Continuous exposure	365 days/year
Environment factors not	Dilution Factor (River)	10
influenced by risk management	Dilution Factor (Coastal Areas)	100
Other given operational conditions affecting	Emission or Release Factor: Air	9,8 .10-1
	Emission or Release Factor: Water	1,0 .10-2
environmental exposure	Emission or Release Factor: Soil	1,0 .10-2
	initial release prior to RMM	
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Technical conditions and measures at process level (source) to prevent release Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil Organizational measures to prevent/limit release from the site	Air	Treat air emission to provide a typical removal efficiency of (%): (Efficiency: 0 %)
	Water	No wastewater treatment required.
	Water	If discharging to domestic sewage treatment plant, no onsite wastewater treatment required.
	Soil	Risk from environmental exposure is driven by soil.
	Common practices vary ac estimates used.	ross sites thus conservative process release
		1
	Type of Sewage Treatment Plant	Domestic sewage treatment plant
	Flow rate of sewage treatment plant effluent	2.000 m3/d
Conditions and measures related	Degradation efficiency	96,2 %
to sewage treatment plant	Percentage removed from waste water	96,2 %
	Sludge Treatment	Do not apply industrial sludge to natural soils., Sludge should be incinerated, contained or reclaimed.
Conditions and measures related to external treatment of waste for disposal	Waste treatment	External treatment and disposal of waste should comply with applicable local and/or national regulations.
Conditions and measures related to external recovery of waste	Recovery Methods	External recovery and recycling of waste should comply with applicable local and/or national regulations.
		re for: PROC1, PROC2, PROC3, PROC4, ROC13, PROC15, PROC19
Product characteristics	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 % (unless stated differently).
	Physical Form (at time of use)	liquid
	Vapour pressure	0,5 - 10 kPa
Frequency and duration of use	Frequency of use	8 hours/day
Other operational conditions	Outdoor(PROC11)	
affecting workers exposure	Assumes use at not more than 20°C above ambient temperature, unless stated differently.	
Technical conditions and	General exposures (closed systems)	Handle substance within a closed system.(PROC1)
measures to control dispersion from source towards the worker	Filling / preparation of equipment from drums or containers	Handle substance within a closed system.(PROC2)

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## Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics

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General exposures (closed systems) Use in contained systems	Handle substance within a closed system.(PROC2)
Manual Spraying Indoor.	provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).(PROC11)
Manual Spraying Outdoor.	provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).(PROC11)

3. Exposure estimation and reference to its source

### Environment

ESVOC spERC 8.3b.v1 has been used to evaluate the exposure for the environment.

### Workers

The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

# 4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

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.

Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-forindustries-libraries.html).

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

For further information on the assessment method, see: http://www.ecetoc.org/tra

Only properly trained persons shall make use of scaling methods while checking whether the OC and RMM are within the boundaries set by the ES

### Additional good practice advice beyond the REACH Chemical Safety Assessment

Assumes a good basic standard of occupational hygiene is implemented.



# Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics

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Main Lloor Croups	SIL21: Consumer uses: B	- rivete heurophelde (- general nublie - enneumere)
Main User Groups Chemical product category	SU 21: Consumer uses: Private households (= general public = consumers)         PC1: Adhesives, sealants         PC4: Anti-freeze and de-icing products         PC8: Biocidal products         PC9a: Coatings and paints, thinners, paint removers         PC9b: Fillers, putties, plasters, modelling clay         PC9c: Finger paints         PC15: Non-metal-surface treatment products         PC18: Ink and toners         PC23: Leather tanning, dye, finishing, impregnation and care products         PC31: Polishes and wax blends         PC34: Textile dyes, finishing and impregnating products; including bleaches and other processing aids	
Environmental Release Categories	ERC8a: Wide dispersive indoor use of processing aids in open systems ERC8d: Wide dispersive outdoor use of processing aids in open systems	
2.1 Contributing scenario co	ontrolling environmental	exposure for: ERC8a, ERC8d
Amount used	Maximum daily site tonnage (kg/day):	0,055 kg/day
	Regional use tonnage (tons/year):	40 ton(s)/year
	Fraction of EU tonnage used in region:	0,1
	Fraction of Regional tonnage used locally:	0,0005
	Annual site tonnage (tons/year):	0,02 ton(s)/year
Frequency and duration of use	Continuous exposure	365 days/year
	Dilution Factor (River)	10
Environment factors not influenced by risk management	Dilution Factor (Coastal Areas)	100
	Emission or Release Factor: Air	9,9 .10-1
Other given operational conditions affecting environmental exposure	Emission or Release Factor: Water	1,0 .10-2
	Emission or Release Factor: Soil	5,0 .10-3
	initial release prior to RMN	Λ
Technical conditions and measures at process level (source) to prevent release	Water     Risk from environmental exposure is driven by freshwater.	
Technical onsite conditions and		
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# Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics

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measures to reduce or limit discharges, air emissions and releases to soil Organizational measures to prevent/limit release from the site			
	Type of Sewage Treatment Plant	Domestic sewage treatment plant	
Conditions and measures related to sewage treatment plant	Flow rate of sewage treatment plant effluent	2.000 m3/d	
	Percentage removed from waste water	96,2 %	
Conditions and measures related to external treatment of waste for disposal	Waste treatment	External treatment and disposal of waste should comply with applicable local and/or national regulations.	
Conditions and measures related to external recovery of waste	Recovery Methods	External recovery and recycling of waste should comply with applicable local and/or national regulations.	
2.2 Contributing scenario co	ntrolling consumer expo	osure for: PC1: Glues, hobby use	
	Concentration of the Substance in Mixture/Article	Covers concentrations up to 30%	
Product characteristics	Physical Form (at time of use)	liquid	
	Vapour pressure	> 10 Pa	
Amount used	Amount used per event	9 g	
	Frequency of use	365 days/year	
Frequency and duration of use	Frequency of use	1 Times per day	
	Exposure duration per event	240 min	
Human factors not influenced by risk management	Exposed skin areas	Covers skin contact area up to 35,73 cm <sup>2</sup>	
Other given operational	Room size	20 m3	
conditions affecting consumers	Covers use under typical h	ousehold ventilation.	
exposure Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)	Consumer Measures	No specific risk management measure identified beyond those operational conditions stated.	
		osure for: PC1: Glues DIY-use (carpet glue,	,
tile glue, wood parquet g	,		
Product characteristics	Concentration of the Substance in Mixture/Article	Covers concentrations up to 30%	
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	Physical Form (at time of use)	liquid
	Vapour pressure	> 10 Pa
Amount used	Amount used per event	6,39 kg
	Frequency of use	1 days/year
Frequency and duration of use	Frequency of use	1 Times per day
	Exposure duration per event	360 min
Human factors not influenced by risk management	Exposed skin areas	Covers skin contact area up to 110 cm <sup>2</sup>
Other given operational	Room size	20 m3
conditions affecting consumers exposure	Covers use under typical h	ousehold ventilation.
Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)	Consumer Measures	No specific risk management measure identified beyond those operational conditions stated.
2.4 Contributing scenario co	ntrolling consumer expo	osure for: PC1: Glue from spray
	Concentration of the Substance in Mixture/Article	Covers concentrations up to 30%
Product characteristics	Physical Form (at time of use)	liquid
	Vapour pressure	> 10 Pa
Amount used	Amount used per event	85,05 g
	Frequency of use	6 days/year
Frequency and duration of use	Frequency of use	1 Times per day
	Exposure duration per event	240 min
Human factors not influenced by risk management	Exposed skin areas	Covers skin contact area up to 35,73 cm <sup>2</sup>
Other given operational	Room size	20 m3
conditions affecting consumers exposure	Covers use under typical household ventilation.	
Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)	Consumer Measures	No specific risk management measure identified beyond those operational conditions stated.
2.5 Contributing scenario co	ntrolling consumer expo	osure for: PC1: Sealants
Product characteristics	Concentration of the Substance in	Covers concentrations up to 30%
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# Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics

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	Mixture/Article	
	Physical Form (at time of use)	liquid
	Vapour pressure	> 10 Pa
Amount used	Amount used per event	75 g
	Frequency of use	365 days/year
Frequency and duration of use	Frequency of use	1 Times per day
	Exposure duration per event	60 min
Human factors not influenced by risk management	Exposed skin areas	Covers skin contact area up to 35,73 cm <sup>2</sup>
Other given operational	Room size	20 m3
conditions affecting consumers exposure	Covers use under typical household ventilation.	
Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)	Consumer Measures	No specific risk management measure identified beyond those operational conditions stated.
	ntrolling consumer expo	osure for: PC4: Washing car window
	Concentration of the Substance in Mixture/Article	Covers concentrations up to 1%
Product characteristics	Physical Form (at time of use)	liquid
	Vapour pressure	> 10 Pa
<u> </u>		
Amount used	Amount used per event	0,5 g
	Frequency of use	365 days/year
Frequency and duration of use	Frequency of use	1 Times per day
	Exposure duration per event	1,2 min
Human factors not influenced by risk management	Exposed skin areas	Covers skin contact area up to 857,5 cm <sup>2</sup>
Other given operational	Room size	34 m3
conditions affecting consumers exposure	Covers use in a one car garage (34 m3) under typical ventilation.	
Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)	Consumer Measures	No specific risk management measure identified beyond those operational conditions stated.
	ntrolling consumer expo	osure for: PC4: Pouring into radiator
Product characteristics	Concentration of the	Covers concentrations up to 10%
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	Substance in Mixture/Article	
	Physical Form (at time of use)	liquid
	Vapour pressure	> 10 Pa
Amount used	Amount used per event	2 kg
	Frequency of use	365 days/year
-	Frequency of use	1 Times per day
Frequency and duration of use	Exposure duration per event	10,2 min
Human factors not influenced by risk management	Exposed skin areas	Covers skin contact area up to 428 cm <sup>2</sup>
Other given operational	Room size	34 m3
conditions affecting consumers exposure	Covers use in a one car ga	rage (34 m3) under typical ventilation.
Conditions and measures related to protection of consumer (e.g. behavioural advice, personal	Consumer Measures	No specific risk management measure identified beyond those operational conditions stated.
protection and hygiene)		l
protection and hygiene) 2.8 Contributing scenario co	ntrolling consumer expo	osure for: PC4: Lock de-icer
	ntrolling consumer expo Concentration of the Substance in Mixture/Article	Covers concentrations up to 50%
protection and hygiene) <b>2.8 Contributing scenario co</b> Product characteristics	Concentration of the Substance in	
2.8 Contributing scenario co	Concentration of the Substance in Mixture/Article Physical Form (at time of	Covers concentrations up to 50%
2.8 Contributing scenario con	Concentration of the Substance in Mixture/Article Physical Form (at time of use) Vapour pressure	Covers concentrations up to 50% liquid > 10 Pa
2.8 Contributing scenario con	Concentration of the Substance in Mixture/Article Physical Form (at time of use) Vapour pressure Amount used per event	Covers concentrations up to 50% liquid > 10 Pa 4 g
2.8 Contributing scenario con Product characteristics Amount used	Concentration of the Substance in Mixture/Article Physical Form (at time of use) Vapour pressure Amount used per event Frequency of use	Covers concentrations up to 50% liquid > 10 Pa 4 g 365 days/year
2.8 Contributing scenario con Product characteristics Amount used	Concentration of the Substance in Mixture/Article Physical Form (at time of use) Vapour pressure Amount used per event	Covers concentrations up to 50% liquid > 10 Pa 4 g
2.8 Contributing scenario con Product characteristics Amount used Frequency and duration of use Human factors not influenced by	Concentration of the Substance in Mixture/Article Physical Form (at time of use) Vapour pressure Amount used per event Frequency of use Frequency of use Exposure duration per	Covers concentrations up to 50% liquid > 10 Pa 4 g 365 days/year 1 Times per day
2.8 Contributing scenario co Product characteristics Amount used Frequency and duration of use Human factors not influenced by risk management	Concentration of the Substance in Mixture/Article Physical Form (at time of use) Vapour pressure Amount used per event Frequency of use Frequency of use Exposure duration per event	Covers concentrations up to 50% liquid > 10 Pa 4 g 365 days/year 1 Times per day 15 min
2.8 Contributing scenario con	Concentration of the Substance in Mixture/Article Physical Form (at time of use) Vapour pressure Amount used per event Frequency of use Frequency of use Exposure duration per event Exposed skin areas Room size	Covers concentrations up to 50% liquid > 10 Pa 4 g 365 days/year 1 Times per day 15 min Covers skin contact area up to 214,4 cm <sup>2</sup>

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# Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics

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products			
	Concentration of the Substance in Mixture/Article	Covers concentrations up to 5%	
Product characteristics	Physical Form (at time of use)	liquid	
	Vapour pressure	> 10 Pa	
Amount used	Amount used per event	15 g	
	Frequency of use	365 days/year	
Frequency and duration of use	Frequency of use	1 Times per day	
	Exposure duration per event	30 min	
Human factors not influenced by	Exposed skin areas	Covers skin contact area up to 857,5 cm <sup>2</sup>	
risk management Other given operational	Room size	20 m3	_
conditions affecting consumers			_
exposure	Covers use under typical h	1	_
Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)	Consumer Measures	No specific risk management measure identified beyond those operational conditions stated.	
	controlling consumer e	exposure for: PC8: Cleaners, liquids	
	Concentration of the Substance in Mixture/Article	Covers concentrations up to 5%	
Product characteristics	Physical Form (at time of use)	liquid	
	Vapour pressure	> 10 Pa	
Amount used	Amount used per event	27 g	
	Frequency of use	128 days/year	
	Frequency of use	1 Times per day	
Frequency and duration of use	Exposure duration per event	19,8 min	
Human factors not influenced by risk management	Exposed skin areas	Covers skin contact area up to 857,5 cm <sup>2</sup>	
Other given operational	Room size	20 m3	
conditions affecting consumers exposure	Covers use under typical h	ousehold ventilation.	
Conditions and measures related to protection of consumer (e.g. behavioural advice, personal	Consumer Measures	No specific risk management measure identified beyond those operational conditions stated.	



# Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics

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protection and hygiene)

2.11 Contributing scenario	controlling consumer e	exposure for: PC8: Cleaners, trigger sprays
	Concentration of the Substance in Mixture/Article	Covers concentrations up to 15%
Product characteristics	Physical Form (at time of use)	liquid
	Vapour pressure	> 10 Pa
Amount used	Amount used per event	35 g
	Frequency of use	128 days/year
Frequency and duration of use	Frequency of use	1 Times per day
	Exposure duration per event	10,2 min
Human factors not influenced by risk management	Exposed skin areas	Covers skin contact area up to 428 cm <sup>2</sup>
Other given operational	Room size	20 m3
conditions affecting consumers exposure	Covers use under typical h	ousehold ventilation.
Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)	Consumer Measures	No specific risk management measure identified beyond those operational conditions stated.
2.12 Contributing scenario paint, PC15: Waterborne		exposure for: PC9a: Waterborne latex wall
	Concentration of the Substance in	Covers concentrations up to 1,5%
	Mixture/Article	•
Product characteristics	Mixture/Article Physical Form (at time of use)	liquid
Product characteristics	Physical Form (at time of	
Product characteristics	Physical Form (at time of use)	liquid
Product characteristics	Physical Form (at time of use)	liquid
	Physical Form (at time of use) Vapour pressure	liquid > 10 Pa
Amount used	Physical Form (at time of use) Vapour pressure Amount used per event	liquid > 10 Pa 2,76 kg
Amount used	Physical Form (at time of use) Vapour pressure Amount used per event Frequency of use	liquid > 10 Pa 2,76 kg 4 days/year
Amount used Frequency and duration of use Human factors not influenced by	Physical Form (at time of use) Vapour pressure Amount used per event Frequency of use Frequency of use Exposure duration per	liquid > 10 Pa 2,76 kg 4 days/year 1 Times per day
Amount used Frequency and duration of use Human factors not influenced by risk management Other given operational	Physical Form (at time of use) Vapour pressure Amount used per event Frequency of use Frequency of use Exposure duration per event	liquid > 10 Pa 2,76 kg 4 days/year 1 Times per day 132 min
Amount used Frequency and duration of use Human factors not influenced by risk management Other given operational conditions affecting consumers	Physical Form (at time of use) Vapour pressure Amount used per event Frequency of use Frequency of use Exposure duration per event Exposed skin areas	liquid > 10 Pa 2,76 kg 4 days/year 1 Times per day 132 min Covers skin contact area up to 428,75 cm <sup>2</sup> 20 m3
Amount used Frequency and duration of use Human factors not influenced by risk management Other given operational	Physical Form (at time of use) Vapour pressure Amount used per event Frequency of use Frequency of use Exposure duration per event Exposed skin areas Room size	liquid > 10 Pa 2,76 kg 4 days/year 1 Times per day 132 min Covers skin contact area up to 428,75 cm <sup>2</sup> 20 m3



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to protection of consumer (e.g. beyond those operational conditions stated. behavioural advice, personal protection and hygiene) Contributing scenario controlling consumer exposure for: PC9a: Solvent rich, high solid, 2.13 water borne paint, PC15: Solvent rich, high solid, water borne paint Concentration of the Substance in Covers concentrations up to 27,5% Mixture/Article Physical Form (at time of Product characteristics liquid use) Vapour pressure > 10 Pa Amount used Amount used per event 744 q Frequency of use 6 days/year 1 Times per day Frequency of use Frequency and duration of use Exposure duration per 132 min event Human factors not influenced by Exposed skin areas Covers skin contact area up to 428,75 cm<sup>2</sup> risk management Other given operational 20 m3 Room size conditions affecting consumers Covers use under typical household ventilation. exposure Conditions and measures related No specific risk management measure identified to protection of consumer (e.g. beyond those operational conditions stated. **Consumer Measures** behavioural advice, personal protection and hygiene) Contributing scenario controlling consumer exposure for: PC9a: Aerosol spray can, PC15: 2.14 Aerosol spray can 6 .1

	Concentration of the Substance in Mixture/Article	Covers concentrations up to 50%	
Product characteristics	Physical Form (at time of use)	liquid	
	Vapour pressure	> 10 Pa	
Amount used	Amount used per event	215 g	
	Frequency of use	2 days/year	
Frequency and duration of use	Frequency of use	1 Times per day	
	Exposure duration per event	19,8 min	
Human factors not influenced by risk management	Exposed skin areas	Covers skin contact area up to 857,5 cm <sup>2</sup>	
Other given operational	Room size	34 m3	
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# Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics

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conditions affecting consumers exposure	Covers use in a one car garage (34 m3) under typical ventilation.	
Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)	Consumer Measures	No specific risk management measure identified beyond those operational conditions stated.
		exposure for: PC9a: Removers (paint-, glue-, paint-, glue-, wall paper-, sealant remover)
	Concentration of the Substance in Mixture/Article	Covers concentrations up to 50%
Product characteristics	Physical Form (at time of use)	liquid
	Vapour pressure	> 10 Pa
Amount used	Amount used per event	491 g
	Frequency of use	3 days/year
	Frequency of use	1 Times per day
Frequency and duration of use	Exposure duration per event	120 min
Human factors not influenced by risk management	Exposed skin areas	Covers skin contact area up to 857,5 cm <sup>2</sup>
Other given operational	Room size	20 m3
conditions affecting consumers exposure	Covers use under typical household ventilation.	
Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)	Consumer Measures	No specific risk management measure identified beyond those operational conditions stated.
· · · · · · · · · · · · · · · · · · ·	controlling consumer e	exposure for: PC9b: Fillers and putty
	Concentration of the Substance in Mixture/Article	Covers concentrations up to 2%
Product characteristics	Physical Form (at time of use)	liquid
	Vapour pressure	> 10 Pa
Amount used	Amount used per event	85 g
	Frequency of use	12 days/year
Frequency and duration of use	Frequency of use	1 Times per day
requercy and duration of use	Exposure duration per event	240 min
Human factors not influenced by	Exposed skin areas	Covers skin contact area up to 35,73 cm <sup>2</sup>
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# Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics

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risk management	I		
Other given operational	Room size	20 m3	
conditions affecting consumers	Covers use under typical h		
exposure			
Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)	Consumer Measures	No specific risk management measure identified beyond those operational conditions stated.	
2.17 Contributing scenario equalizers	controlling consumer e	exposure for: PC9b: Plasters and floor	
	Concentration of the Substance in Mixture/Article	Covers concentrations up to 2%	
Product characteristics	Physical Form (at time of use)	liquid	
	Vapour pressure	> 10 Pa	
Amount used	Amount used per event	13,8 kg	
	Frequency of use	12 days/year	
Frequency and duration of use	Frequency of use	1 Times per day	
Frequency and duration of use	Exposure duration per event	120 min	
Human factors not influenced by risk management	Exposed skin areas	Covers skin contact area up to 857,5 cm <sup>2</sup>	
Other given operational	Room size	20 m3	
conditions affecting consumers	Covers use under typical h	ousehold ventilation.	
exposure Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)	Consumer Measures	No specific risk management measure identified beyond those operational conditions stated.	
2.18 Contributing scenario	controlling consumer e	exposure for: PC9b: Modelling clay	
	Concentration of the Substance in Mixture/Article	Covers concentrations up to 1%	
Product characteristics	Physical Form (at time of use)	liquid	
	Vapour pressure	> 10 Pa	
Amountured	Amount used per event	1 g	
Amount used	(swallowed)	•	
	Frequency of use	365 days/year	
Frequency and duration of use	Frequency of use	1 Times per day	
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# Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics

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	I	I
	Exposure duration per event	360 min
Human factors not influenced by isk management	Exposed skin areas	Covers skin contact area up to 254,4 cm <sup>2</sup>
Other given operational	Room size	20 m3
conditions affecting consumers exposure	Covers use under typical h	ousehold ventilation.
Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)	Consumer Measures	No specific risk management measure identified beyond those operational conditions stated.
2.19 Contributing scenario	o controlling consumer e	exposure for: PC9c: Finger paints
	Concentration of the Substance in Mixture/Article	Covers concentrations up to 50%
Product characteristics	Physical Form (at time of use)	liquid
	Vapour pressure	> 10 Pa
Amount used	Amount used per event	1,35 g
	(swallowed)	
	Frequency of use	365 days/year
Frequency and duration of use	Frequency of use	1 Times per day
	Exposure duration per event	360 min
Human factors not influenced by risk management	Exposed skin areas	Covers skin contact area up to 254,4 cm <sup>2</sup>
Other given operational	Room size	20 m3
conditions affecting consumers	Covers use under typical h	ousehold ventilation.
Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)	Consumer Measures	No specific risk management measure identified beyond those operational conditions stated.
2.20 Contributing scenario	o controlling consumer e	exposure for: PC18
	Concentration of the Substance in Mixture/Article	Covers concentrations up to 10%
Product characteristics	Physical Form (at time of use)	liquid
	Vapour pressure	> 10 Pa



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	Frequency of use	365 days/year
Frequency and duration of use	Frequency of use	1 Times per day
requency and duration of use	Exposure duration per event	132 min
Human factors not influenced by	Exposed skin areas	Covers skin contact area up to 71,4 cm <sup>2</sup>
risk management Other given operational		
conditions affecting consumers	Room size	20 m3
exposure	Covers use under typical h	ousehold ventilation.
Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)	Consumer Measures	No specific risk management measure identified beyond those operational conditions stated.
2.21 Contributing scenario (floor, furniture, shoes)	controlling consumer e	exposure for: PC23: Polishes, wax/cream
	Concentration of the Substance in Mixture/Article	Covers concentrations up to 50%
Product characteristics	Physical Form (at time of use)	liquid
	Vapour pressure	> 10 Pa
Amount used	Amount used per event	56 g
	Frequency of use	29 days/year
Frequency and duration of use	Frequency of use	1 Times per day
	Exposure duration per event	73,8 min
Human factors not influenced by risk management	Exposed skin areas	Covers skin contact area up to 430 cm <sup>2</sup>
Other given operational	Room size	20 m3
conditions affecting consumers exposure	Covers use under typical h	ousehold ventilation.
Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)	Consumer Measures	No specific risk management measure identified beyond those operational conditions stated.
	controlling consumer e	exposure for: PC23: Polishes, spray (furnitu
	Concentration of the Substance in	Covers concentrations up to 50%

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	Vapour pressure	> 10 Pa
Product characteristics	Physical Form (at time of use)	liquid
	Mixture/Article	Covers concentrations up to 50%



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Amount used	Amount used per event	56 g	
	Frequency of use	8 days/year	
Frequency and duration of use	Frequency of use	1 Times per day	
Frequency and duration of use	Exposure duration per event	19,8 min	
Human factors not influenced by risk management	Exposed skin areas	Covers skin contact area up to 430 cm <sup>2</sup>	
Other given operational	Room size	20 m3	
conditions affecting consumers exposure	Covers use under typical h	ousehold ventilation.	
Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)	Consumer Measures	No specific risk management measure identified beyond those operational conditions stated.	
	controlling consumer e	exposure for: PC24: Liquids	
	Concentration of the Substance in Mixture/Article	Covers concentrations up to 100%	
Product characteristics	Physical Form (at time of use)	liquid	
	Vapour pressure	> 10 Pa	
Amount used	Amount used per event	2,2 kg	
	Frequency of use	4 days/year	
Frequency and duration of use	Frequency of use	1 Times per day	
	Exposure duration per event	10,2 min	
Human factors not influenced by risk management	Exposed skin areas	Covers skin contact area up to 468 cm <sup>2</sup>	
Other given operational	Room size	34 m3	
conditions affecting consumers exposure	Covers use in a one car ga	rage (34 m3) under typical ventilation.	
Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)	Consumer Measures	No specific risk management measure identified beyond those operational conditions stated.	
2.24 Contributing scenario	controlling consumer e	exposure for: PC24: Pastes	
Product characteristics	Concentration of the Substance in Mixture/Article	Covers concentrations up to 20%	
	Physical Form (at time of use)	liquid	
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		40.0-
	Vapour pressure	> 10 Pa
Amount used	Amount used per event	34 g
	Frequency of use	10 days/year
		1 Times per day
Frequency and duration of use	Frequency of use	360 min
	Exposure duration per event	360 min
Human factors not influenced by risk management	Exposed skin areas	Covers skin contact area up to 468 cm <sup>2</sup>
Other given operational	Room size	20 m3
conditions affecting consumers exposure	Covers use under typical h	
Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)	Consumer Measures	No specific risk management measure identified beyond those operational conditions stated.
	controlling consumer e	exposure for: PC24: Sprays
	Concentration of the Substance in Mixture/Article	Covers concentrations up to 50%
Product characteristics	Physical Form (at time of use)	liquid
	Vapour pressure	> 10 Pa
Amount used	Amount used per event	73 g
	Frequency of use	6 days/year
	Frequency of use	1 Times per day
Frequency and duration of use	Exposure duration per event	10,2 min
Human factors not influenced by	Exposed skin areas	Covers skin contact area up to 428,75 cm <sup>2</sup>
risk management Other given operational	Room size	20 m3
conditions affecting consumers		
exposure	Covers use under typical h	
Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)	Consumer Measures	No specific risk management measure identified beyond those operational conditions stated.
2.26 Contributing scenario (floor, furniture, shoes)	controlling consumer e	exposure for: PC31: Polishes, wax / cream
Product characteristics	Concentration of the Substance in Mixture/Article	Covers concentrations up to 50%
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## Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics

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	Physical Form (at time of use)	liquid
	Vapour pressure	> 10 Pa
Amount used	Amount used per event	142 g
	Frequency of use	29 days/year
Frequency and duration of use	Frequency of use	1 Times per day
Frequency and duration of use	Exposure duration per event	73,8 min
Human factors not influenced by risk management	Exposed skin areas	Covers skin contact area up to 430 cm <sup>2</sup>
Other given operational	Room size	20 m3
conditions affecting consumers exposure	Covers use under typical h	ousehold ventilation.
Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)	Consumer Measures	No specific risk management measure identified beyond those operational conditions stated.
	controlling consumer e	exposure for: PC31: Polishes, spray (furniture,
	Concentration of the Substance in Mixture/Article	Covers concentrations up to 50%
Product characteristics	Physical Form (at time of use)	liquid
	Vapour pressure	> 10 Pa
Amount used	Amount used per event	25 a
Amount used	Amount used per event	35 g
	Frequency of use	8 days/year
Frequency and duration of use	Frequency of use	1 Times per day
	Exposure duration per event	19,8 min
Human factors not influenced by risk management	Exposed skin areas	Covers skin contact area up to 430 cm <sup>2</sup>
Other given operational	Room size	20 m3
conditions affecting consumers exposure	Covers use under typical h	
Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)	Consumer Measures	No specific risk management measure identified beyond those operational conditions stated.
	controlling consumer e	exposure for: PC34
Product characteristics	Concentration of the	Covers concentrations up to 10%

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	Substance in Mixture/Article		
	Physical Form (at time of use)	liquid	
	Vapour pressure	> 10 Pa	
Amount used	Amount used per event	115 g	
	Frequency of use	365 days/year	
Frequency and duration of use	Frequency of use	1 Times per day	
	Exposure duration per event	60 min	
Human factors not influenced by	Exposed skin areas	Covers skin contact area up to 857,5 cm <sup>2</sup>	
risk management			
Other given operational	Room size	20 m3	
conditions affecting consumers exposure	Covers use under typical household ventilation.		
Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)	Consumer Measures	No specific risk management measure identified beyond those operational conditions stated.	

### 3. Exposure estimation and reference to its source

### Environment

Contributing Scenario	Specific conditions	Compartment	Value	Level of Exposure	RCR
			Msafe	640 kg/day	
ESVOC spERC 8.3c.v1 has been used to evaluate the exposure for the environment.					

### Consumers

The ECETOC TRA tool has been used to estimate consumer exposures unless otherwise indicated.

# 4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

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.

Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-for-industries-libraries.html).

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

For further information on the assessment method, see: http://www.ecetoc.org/tra

Only properly trained persons shall make use of scaling methods while checking whether the OC and RMM are within the boundaries set by the ES

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# Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics

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Main User Groups	SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites		
Process categories	PROC1: Use in closed process, no likelihood of exposure PROC2: Use in closed, continuous process with occasional controlled exposure PROC3: Use in closed batch process (synthesis or formulation) PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises PROC7: Industrial spraying PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities PROC10: Roller application or brushing PROC13: Treatment of articles by dipping and pouring		
Environmental Release Categories	ERC4: Industrial use of propert of articles	ocessing aids in processes and products, not becoming	
2.1 Contributing scenario co	ontrolling environmental	exposure for: ERC4	
	Maximum daily site tonnage (kg/day):	1000 kg/day	
	Regional use tonnage (tons/year):	38 ton(s)/year	
Amount used	Fraction of EU tonnage used in region:	0,1	
	Fraction of Regional tonnage used locally:	1	
	Annual site tonnage (tons/year):	38 ton(s)/year	
Frequency and duration of use	Continuous exposure	20 days/year	
	Dilution Factor (River)	10	
Environment factors not influenced by risk management	Dilution Factor (Coastal Areas)	100	
	Emission or Release Factor: Air	1,0	
Other given operational conditions affecting	Emission or Release Factor: Water	3,0 .10-7	
environmental exposure	Emission or Release Factor: Soil	0	
	initial release prior to RMM		
Technical conditions and measures at process level	Air	Treat air emission to provide a typical removal efficiency of (%): (Efficiency: 70 %)	
(source) to prevent release Technical onsite conditions and	Water     No wastewater treatment required.		



## Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics

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measures to reduce or limit discharges, air emissions and	Water	If discharging to domestic sewage treatment plant, no onsite wastewater treatment required.	
releases to soil Organizational measures to prevent/limit release from the site	Water	Prevent discharge of undissolved substance to or recover from onsite wastewater.	
prevent/initia release norm the site	Soil	Risk from environmental exposure is driven by soil.	
	Common practices vary across sites thus conservative process release estimates used.		
	Type of Sewage Treatment Plant	Domestic sewage treatment plant	
	Flow rate of sewage treatment plant effluent	2.000 m3/d	
Conditions and measures related	Degradation efficiency	96,2 %	
to sewage treatment plant	Percentage removed from waste water	96,2 %	
	Sludge Treatment	Do not apply industrial sludge to natural soils., Sludge should be incinerated, contained or reclaimed.	
Conditions and measures related to external treatment of waste for disposal	Waste treatment	External treatment and disposal of waste should comply with applicable local and/or national regulations.	
Conditions and measures related to external recovery of waste	Recovery Methods	External recovery and recycling of waste should comply with applicable local and/or national regulations.	
2.2 Contributing scenario co PROC7, PROC8a, PROC8		re for: PROC1, PROC2, PROC3, PROC4,	
	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 % (unless stated differently).	
Product characteristics	Physical Form (at time of use)	liquid	
	Vapour pressure	0,5 - 10 kPa	
Frequency and duration of use	Frequency of use	8 hours/day	
Other operational conditions affecting workers exposure	Assumes use at not more t differently.	han 20°C above ambient temperature, unless stated	
Technical conditions and measures to control dispersion from source towards the worker	Storage	Store substance within a closed system.(PROC1, PROC2)	

### 3. Exposure estimation and reference to its source

Environment

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## Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics

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Contributing Scenario	Specific conditions	Compartment	Value	Level of Exposure	RCR
			Msafe	13000000 kg/day	
FSV/OC on FPC 4 to yet have been used to evaluate the evaluation for the environment					

ESVOC spERC 4.4a.v1 has been used to evaluate the exposure for the environment.

Workers

The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

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.

Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-forindustries-libraries.html).

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

For further information on the assessment method, see: http://www.ecetoc.org/tra

Only properly trained persons shall make use of scaling methods while checking whether the OC and RMM are within the boundaries set by the ES

### Additional good practice advice beyond the REACH Chemical Safety Assessment

Assumes a good basic standard of occupational hygiene is implemented.

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## Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics

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### 1. Short title of Exposure Scenario 10: Use in Cleaning Agents

Main User Groups	SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Process categories	<ul> <li>PROC1: Use in closed process, no likelihood of exposure</li> <li>PROC2: Use in closed, continuous process with occasional controlled exposure</li> <li>PROC3: Use in closed batch process (synthesis or formulation)</li> <li>PROC4: Use in batch and other process (synthesis) where opportunity for</li> <li>exposure arises</li> <li>PROC8a: Transfer of substance or preparation (charging/discharging) from/to</li> <li>vessels/large containers at non-dedicated facilities</li> <li>PROC8b: Transfer of substance or preparation (charging/discharging) from/to</li> <li>vessels/large containers at dedicated facilities</li> <li>PROC10: Roller application or brushing</li> <li>PROC11: Non industrial spraying</li> <li>PROC13: Treatment of articles by dipping and pouring</li> </ul>
Environmental Release Categories	ERC8a: Wide dispersive indoor use of processing aids in open systems ERC8d: Wide dispersive outdoor use of processing aids in open systems

### 2.1 Contributing scenario controlling environmental exposure for: ERC8a, ERC8d

	g en		
	Maximum daily site tonnage (kg/day):	0,043 kg/day	
Amount used	Regional use tonnage (tons/year):	31 ton(s)/year	
	Fraction of EU tonnage used in region:	0,1	
	Fraction of Regional tonnage used locally:	0,0005	
	Annual site tonnage (tons/year):	0,016 ton(s)/year	
Frequency and duration of use	Continuous exposure 365 days/year		
Environment factors not	Dilution Factor (River)	10	
influenced by risk management	Dilution Factor (Coastal Areas)	100	
	Emission or Release Factor: Air	2,0 .10-2	
Other given operational conditions affecting	Emission or Release Factor: Water	1,0 .10-6	
environmental exposure	Emission or Release Factor: Soil	0	
	initial release prior to RMM		
Technical conditions and measures at process level	Air	Treat air emission to provide a typical removal efficiency of (%): (Efficiency: 0 %)	
(source) to prevent release Technical onsite conditions and	Water	No wastewater treatment required.	
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## Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics

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measures to reduce or limit discharges, air emissions and	Water	If discharging to domestic sewage treatment plant, no onsite wastewater treatment required.
releases to soil Organizational measures to	Water	Prevent discharge of undissolved substance to or recover from onsite wastewater.
prevent/limit release from the site	Water	Risk from environmental exposure is driven by freshwater.
	Common practices vary ac estimates used.	ross sites thus conservative process release
	Type of Sewage Treatment Plant	Domestic sewage treatment plant
	Flow rate of sewage treatment plant effluent	2.000 m3/d
Conditions and measures related	Degradation efficiency	96,2 %
to sewage treatment plant	Percentage removed from waste water	96,2 %
	Sludge Treatment	Do not apply industrial sludge to natural soils., Sludge should be incinerated, contained or reclaimed.
Conditions and measures related to external treatment of waste for disposal	Waste treatment	External treatment and disposal of waste should comply with applicable local and/or national regulations.
Conditions and measures related to external recovery of waste	Recovery Methods	External recovery and recycling of waste should comply with applicable local and/or national regulations.
2.2 Contributing scenario co	ntrolling worker exposu	
		re for: PROC1, PROC2, PROC3, PROC4,
PROC8a, PROC8b, PROC		Covers percentage substance in the product up to 100 % (unless stated differently).
	<b>10, PROC11, PROC13</b> Concentration of the Substance in	Covers percentage substance in the product up to
PROC8a, PROC8b, PROC	<b>10, PROC11, PROC13</b> Concentration of the Substance in Mixture/Article Physical Form (at time of	Covers percentage substance in the product up to 100 % (unless stated differently).
PROC8a, PROC8b, PROC Product characteristics Frequency and duration of use	10, PROC11, PROC13 Concentration of the Substance in Mixture/Article Physical Form (at time of use) Vapour pressure Frequency of use	Covers percentage substance in the product up to 100 % (unless stated differently). liquid 0,5 - 10 kPa 8 hours/day
PROC8a, PROC8b, PROC	10, PROC11, PROC13 Concentration of the Substance in Mixture/Article Physical Form (at time of use) Vapour pressure Frequency of use	Covers percentage substance in the product up to 100 % (unless stated differently). liquid 0,5 - 10 kPa
PROC8a, PROC8b, PROC Product characteristics Frequency and duration of use Other operational conditions	10, PROC11, PROC13 Concentration of the Substance in Mixture/Article Physical Form (at time of use) Vapour pressure Frequency of use Assumes use at not more to	Covers percentage substance in the product up to 100 % (unless stated differently). liquid 0,5 - 10 kPa 8 hours/day

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## Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics

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Spraying Outdoor.	Limit the substance content in the mixture to 25 %.(PROC11)
Storage	Store substance within a closed system.(PROC1, PROC2)

### 3. Exposure estimation and reference to its source

### Environment

Contributing Scenario	Specific conditions	Compartment	Value	Level of Exposure	RCR
			Msafe	650 kg/day	

ESVOC spERC 8.4b.v1 has been used to evaluate the exposure for the environment.

### Workers

The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

# 4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

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.

Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-forindustries-libraries.html).

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

For further information on the assessment method, see: http://www.ecetoc.org/tra

Only properly trained persons shall make use of scaling methods while checking whether the OC and RMM are within the boundaries set by the ES

### Additional good practice advice beyond the REACH Chemical Safety Assessment

Assumes a good basic standard of occupational hygiene is implemented.

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# Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics

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Main User Groups	SU 21: Consumer uses: P	rivate households (= general public = consumers)		
Chemical product category	<ul> <li>PC3: Air care products</li> <li>PC4: Anti-freeze and de-icing products</li> <li>PC8: Biocidal products</li> <li>PC9a: Coatings and paints, thinners, paint removers</li> <li>PC9b: Fillers, putties, plasters, modelling clay</li> <li>PC9c: Finger paints</li> <li>PC24: Lubricants, greases, release products</li> <li>PC35: Washing and cleaning products (including solvent based products)</li> <li>PC38: Welding and soldering products (with flux coatings or flux cores), flux products</li> </ul>			
Environmental Release Categories		ERC8a: Wide dispersive indoor use of processing aids in open systems ERC8d: Wide dispersive outdoor use of processing aids in open systems		
2.1 Contributing scenario co	ontrolling environmental	exposure for: ERC8a, ERC8d		
	Maximum daily site tonnage (kg/day):	0,01 kg/day		
	Regional use tonnage (tons/year):	7,6 ton(s)/year		
Amount used	Fraction of EU tonnage used in region:	0,1		
	Fraction of Regional tonnage used locally:	0,0005		
	Annual site tonnage (tons/year):	0,0038 ton(s)/year		
Frequency and duration of use	Continuous exposure	365 days/year		
Environment factors not	Dilution Factor (River)	10		
Environment factors not influenced by risk management	Dilution Factor (Coastal Areas)	100		
	Emission or Release Factor: Air	9,5 .10-1		
Other given operational conditions affecting	Emission or Release Factor: Water	2,5 .10-2		
environmental exposure	Emission or Release Factor: Soil	2,5 .10-2		
	initial release prior to RMM	Λ		
Technical conditions and measures at process level	Water	Risk from environmental exposure is driven by freshwater.		
(source) to prevent release Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil				
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# Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics

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Organizational measures to prevent/limit release from the site		
	Type of Sewage Treatment Plant	Domestic sewage treatment plant
Conditions and measures related to sewage treatment plant	Flow rate of sewage treatment plant effluent	2.000 m3/d
	Percentage removed from waste water	96,2 %
Conditions and measures related to external treatment of waste for disposal	Waste treatment	External treatment and disposal of waste should comply with applicable local and/or national regulations.
Conditions and measures related to external recovery of waste	Recovery Methods	External recovery and recycling of waste should comply with applicable local and/or national regulations.
2.2 Contributing scenario co sprays)	ntrolling consumer expo	osure for: PC3: Aircare, instant action (aerosol
	Concentration of the Substance in Mixture/Article	Covers concentrations up to 50%
Product characteristics	Physical Form (at time of use)	liquid
	Vapour pressure	> 10 Pa
Amount used	Amount used per event	0,1 g
	Frequency of use	365 days/year
Frequency and duration of use	Frequency of use	4 Times per day
	Exposure duration per event	15 min
Human factors not influenced by	Exposed skin areas	Covers skin contact area up to 857,5 cm <sup>2</sup>

Human factors not influenced by	Exposed skin areas	Covers skin contact area up to 857,5 cm <sup>2</sup>
risk management		
Other given operational conditions affecting consumers exposure	Room size	20 m3
	Covers use under typical household ventilation.	
Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)	Consumer Measures	No specific risk management measure identified beyond those operational conditions stated.
protection and hygiene)		

2.3 Contributing scenario controlling consumer exposure for: PC3: Aircare, continuous action (solid & liquid)		
Product characteristics	Concentration of the Substance in Mixture/Article	Covers concentrations up to 10%
	Physical Form (at time of use)	liquid
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	Vapour pressure	> 10 Pa
		1
Amount used	Amount used per event	0,48 g
	Frequency of use	365 days/year
Frequency and duration of use	Frequency of use	1 Times per day
	Exposure duration per event	480 min
Human factors not influenced by risk management	Exposed skin areas	Covers skin contact area up to 35,7 cm <sup>2</sup>
Other given operational	Room size	20 m3
conditions affecting consumers exposure	Covers use under typical h	ousehold ventilation.
Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)	Consumer Measures	No specific risk management measure identified beyond those operational conditions stated.
2.4 Contributing scenario co	ntrolling consumer expo	osure for: PC4: Washing car window
	Concentration of the Substance in Mixture/Article	Covers concentrations up to 1%
Product characteristics	Physical Form (at time of use)	liquid
	Vapour pressure	> 10 Pa
Amount used	Amount used per event	0,5 g
	Frequency of use	365 days/year
Frequency and duration of use	Frequency of use	1 Times per day
	Exposure duration per event	1,2 min
Human factors not influenced by risk management	Exposed skin areas	Covers skin contact area up to 857,5 cm <sup>2</sup>
Other given operational	Room size	34 m3
conditions affecting consumers exposure	Covers use in a one car ga	arage (34 m3) under typical ventilation.
Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)	Consumer Measures	No specific risk management measure identified beyond those operational conditions stated.
2.5 Contributing scenario co	ntrolling consumer expo	osure for: PC4: Pouring into radiator
Product characteristics	Concentration of the Substance in Mixture/Article	Covers concentrations up to 10%
	Physical Form (at time of	liquid
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	use)	
	Vapour pressure	> 10 Pa
A ( )		
Amount used	Amount used per event	2 kg
	Frequency of use	365 days/year
Frequency and duration of use	Frequency of use	1 Times per day
	Exposure duration per event	10,2 min
Human factors not influenced by risk management	Exposed skin areas	Covers skin contact area up to 428 cm <sup>2</sup>
Other given operational	Room size	34 m3
conditions affecting consumers exposure	Covers use in a one car ga	arage (34 m3) under typical ventilation.
Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)	Consumer Measures	No specific risk management measure identified beyond those operational conditions stated.
2.6 Contributing scenario co	ntrolling consumer expo	osure for: PC4: Lock de-icer
	Concentration of the	
	Substance in Mixture/Article	Covers concentrations up to 50%
Product characteristics	Physical Form (at time of use)	liquid
	Vapour pressure	> 10 Pa
Amount used	Amount used per event	4.9
Amount used	Amount used per event	4 g
	Frequency of use	365 days/year
Frequency and duration of use	Frequency of use	1 Times per day
	Exposure duration per event	15 min
Human factors not influenced by risk management	Exposed skin areas	Covers skin contact area up to 214,4 cm <sup>2</sup>
Other given operational	Room size	34 m3
conditions affecting consumers		arage (34 m3) under typical ventilation.
exposure		
Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)	Consumer Measures	No specific risk management measure identified beyond those operational conditions stated.
2.7 Contributing scenario co	ntrolling consumer expo	osure for: PC8: Laundry and dish washing
products		
Product characteristics	Concentration of the Substance in	Covers concentrations up to 5%



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	Mixture/Article	I
	Physical Form (at time of use)	liquid
	Vapour pressure	> 10 Pa
A	A	
Amount used	Amount used per event	15 g
	Frequency of use	365 days/year
Frequency and duration of use	Frequency of use	1 Times per day
	Exposure duration per event	30 min
Human factors not influenced by risk management	Exposed skin areas	Covers skin contact area up to 857,5 cm <sup>2</sup>
Other given operational	Room size	20 m3
conditions affecting consumers exposure	Covers use under typical h	ousehold ventilation.
Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)	Consumer Measures	No specific risk management measure identified beyond those operational conditions stated.
	ntrolling consumer expo	osure for: PC8: Cleaners, liquids
	Concentration of the Substance in Mixture/Article	Covers concentrations up to 5%
Product characteristics	Physical Form (at time of use)	liquid
	Vapour pressure	> 10 Pa
		1
Amount used	Amount used per event	27 g
	Frequency of use	128 days/year
Frequency and duration of use	Frequency of use	1 Times per day
	Exposure duration per event	19,8 min
Human factors not influenced by risk management	Exposed skin areas	Covers skin contact area up to 857,5 cm <sup>2</sup>
Other given operational	Room size	20 m3
conditions affecting consumers exposure	Covers use under typical household ventilation.	
Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)	Consumer Measures	No specific risk management measure identified beyond those operational conditions stated.
	ntrolling consumer expo	osure for: PC8: Cleaners, trigger sprays
Product characteristics	Concentration of the	Covers concentrations up to 15%
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	Substance in Mixture/Article	
	Physical Form (at time of use)	liquid
	Vapour pressure	> 10 Pa
Amount used	Amount used per event	35 g
	Frequency of use	128 days/year
Frequency and duration of use	Frequency of use	1 Times per day
requercy and duration of use	Exposure duration per event	10,2 min
Human factors not influenced by risk management	Exposed skin areas	Covers skin contact area up to 428 cm <sup>2</sup>
Other given operational	Room size	20 m3
conditions affecting consumers exposure	Covers use under typical h	nousehold ventilation.
Conditions and measures related to protection of consumer (e.g. behavioural advice, personal	Consumer Measures	No specific risk management measure identified beyond those operational conditions stated.
protection and hygiene)	controlling consumer e	exposure for: PC9a: Waterborne latex wall
protection and hygiene)	o controlling consumer e	exposure for: PC9a: Waterborne latex wall
protection and hygiene) 2.10 Contributing scenario	Concentration of the Substance in Mixture/Article	exposure for: PC9a: Waterborne latex wall Covers concentrations up to 1,5%
protection and hygiene) 2.10 Contributing scenario	Concentration of the Substance in	
protection and hygiene) 2.10 Contributing scenaric paint	Concentration of the Substance in Mixture/Article Physical Form (at time of	Covers concentrations up to 1,5%
protection and hygiene) 2.10 Contributing scenaric paint	Concentration of the Substance in Mixture/Article Physical Form (at time of use)	Covers concentrations up to 1,5%
protection and hygiene) 2.10 Contributing scenaric paint Product characteristics	Concentration of the Substance in Mixture/Article Physical Form (at time of use)	Covers concentrations up to 1,5%
protection and hygiene) 2.10 Contributing scenaric paint Product characteristics	Concentration of the Substance in Mixture/Article Physical Form (at time of use) Vapour pressure	Covers concentrations up to 1,5% liquid > 10 Pa
Protection and hygiene) 2.10 Contributing scenaric paint Product characteristics Amount used	Concentration of the Substance in Mixture/Article Physical Form (at time of use) Vapour pressure Amount used per event	Covers concentrations up to 1,5% liquid > 10 Pa 2,76 kg
protection and hygiene)         2.10       Contributing scenario paint         Product characteristics         Amount used         Frequency and duration of use	Concentration of the Substance in Mixture/Article Physical Form (at time of use) Vapour pressure Amount used per event Frequency of use	Covers concentrations up to 1,5% liquid > 10 Pa 2,76 kg 4 days/year
protection and hygiene)         2.10       Contributing scenaric paint         Product characteristics         Amount used         Frequency and duration of use         Human factors not influenced by	Concentration of the Substance in Mixture/Article Physical Form (at time of use) Vapour pressure Amount used per event Frequency of use Frequency of use Exposure duration per	Covers concentrations up to 1,5% liquid > 10 Pa 2,76 kg 4 days/year 1 Times per day
protection and hygiene)         2.10       Contributing scenaric paint         Product characteristics         Amount used         Frequency and duration of use         Human factors not influenced by risk management	Concentration of the Substance in Mixture/Article Physical Form (at time of use) Vapour pressure Amount used per event Frequency of use Frequency of use Exposure duration per event Exposed skin areas	Covers concentrations up to 1,5% liquid > 10 Pa 2,76 kg 4 days/year 1 Times per day 132 min Covers skin contact area up to 428,75 cm <sup>2</sup>
protection and hygiene) 2.10 Contributing scenaric paint	Concentration of the Substance in Mixture/Article Physical Form (at time of use) Vapour pressure Amount used per event Frequency of use Frequency of use Exposure duration per event	Covers concentrations up to 1,5% liquid > 10 Pa 2,76 kg 4 days/year 1 Times per day 132 min Covers skin contact area up to 428,75 cm <sup>2</sup> 20 m3

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2.11 Contributing scenaric water borne paint	o controlling consumer	exposure for: PC9a: Solvent rich, high solid
	Concentration of the Substance in Mixture/Article	Covers concentrations up to 27,5%
Product characteristics	Physical Form (at time of use)	liquid
	Vapour pressure	> 10 Pa
Amount used	Amount used per event	744 g
Anount used	Frequency of use	6 days/year
	Frequency of use	1 Times per day
Frequency and duration of use	Exposure duration per event	132 min
Human factors not influenced by risk management	Exposed skin areas	Covers skin contact area up to 428,75 cm <sup>2</sup>
Other given operational	Room size	20 m3
conditions affecting consumers exposure	Covers use under typical h	ousehold ventilation.
Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)	Consumer Measures	No specific risk management measure identified beyond those operational conditions stated.
	controlling consumer	exposure for: PC9a: Aerosol spray can
	Concentration of the Substance in Mixture/Article	Covers concentrations up to 50%
Product characteristics	Physical Form (at time of use)	liquid
	Vapour pressure	> 10 Pa
Amount used	Amount used per event	215 g
	Frequency of use	2 days/year
Frequency and dynation of yes	Frequency of use	1 Times per day
Frequency and duration of use	Exposure duration per event	19,8 min
Human factors not influenced by risk management	Exposed skin areas	Covers skin contact area up to 857,5 cm <sup>2</sup>
Other given operational	Room size	34 m3
conditions affecting consumers exposure	Covers use in a one car ga	rage (34 m3) under typical ventilation.
		No specific risk management measure identified
Conditions and measures related to protection of consumer (e.g.	Consumer Measures	beyond those operational conditions stated.



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behavioural advice, personal protection and hygiene) Contributing scenario controlling consumer exposure for: PC9a: Removers (paint-, glue-, 2.13 wall paper-, sealant-remover) Concentration of the Substance in Covers concentrations up to 50% Mixture/Article Physical Form (at time of Product characteristics liquid use) > 10 Pa Vapour pressure Amount used per event 491 g Amount used Frequency of use 3 days/year 1 Times per day Frequency of use Frequency and duration of use Exposure duration per 120 min event Human factors not influenced by Exposed skin areas Covers skin contact area up to 857,5 cm<sup>2</sup> risk management Other given operational Room size 20 m3 conditions affecting consumers Covers use under typical household ventilation. exposure Conditions and measures related No specific risk management measure identified to protection of consumer (e.g. beyond those operational conditions stated. **Consumer Measures** behavioural advice, personal protection and hygiene) 2.14 Contributing scenario controlling consumer exposure for: PC9b: Fillers and putty Concentration of the Substance in Covers concentrations up to 2% Mixture/Article Physical Form (at time of Product characteristics liquid use) Vapour pressure > 10 Pa

		-
Amount used	Amount used per event	85 g
Frequency and duration of use	Frequency of use	12 days/year
	Frequency of use	1 Times per day
	Exposure duration per event	240 min
Human factors not influenced by	Exposed skin areas	Covers skin contact area up to 35,73 cm <sup>2</sup>
risk management		·
Other given operational	Room size	20 m3
conditions affecting consumers exposure	Covers use under typical household ventilation.	

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Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)	Consumer Measures	No specific risk management measure identified beyond those operational conditions stated.
2.15 Contributing scenario equalizers	o controlling consumer	exposure for: PC9b: Plasters and floor
	Concentration of the Substance in Mixture/Article	Covers concentrations up to 2%
Product characteristics	Physical Form (at time of use)	liquid
	Vapour pressure	> 10 Pa
Amount used	Amount used per event	13,8 kg
	Frequency of use	12 days/year
Frequency and duration of use	Frequency of use	1 Times per day
	Exposure duration per event	120 min
Human factors not influenced by risk management	Exposed skin areas	Covers skin contact area up to 857,5 cm <sup>2</sup>
Other given operational	Room size	20 m3
conditions affecting consumers exposure	Covers use under typical household ventilation.	
Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)	Consumer Measures	No specific risk management measure identified beyond those operational conditions stated.
	o controlling consumer	exposure for: PC9b: Modelling clay
	Concentration of the Substance in Mixture/Article	Covers concentrations up to 1%
Product characteristics	Physical Form (at time of use)	liquid
	Vapour pressure	> 10 Pa
	Amount used per event	1 g
Amount used	(swallowed)	·
	Amount used per event	13,8 kg
	Frequency of use	365 days/year
Frequency and duration of use	Frequency of use	1 Times per day
	Exposure duration per event	480 min

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Human factors not influenced by	Exposed skin areas	Covers skin contact area up to 254,4 cm <sup>2</sup>
risk management	Exposed Skill aleas	
Other given operational	Room size	20 m3
conditions affecting consumers exposure	Covers use under typical household ventilation.	
Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)	Consumer Measures	No specific risk management measure identified beyond those operational conditions stated.
2.17 Contributing scenario	o controlling consumer e	exposure for: PC9c
	Concentration of the Substance in Mixture/Article	Covers concentrations up to 50%
Product characteristics	Physical Form (at time of use)	liquid
	Vapour pressure	> 10 Pa
	Amount used per event	1,35 g
Amount used	(swallowed)	
	Amount used per event	13,8 kg
	Frequency of use	365 days/year
Eroqueney and duration of use	Frequency of use	1 Times per day
Frequency and duration of use	Exposure duration per event	480 min
Human factors not influenced by risk management	Exposed skin areas	Covers skin contact area up to 254,4 cm <sup>2</sup>
Other given operational	Room size	20 m3
conditions affecting consumers exposure	Covers use under typical he	pusehold ventilation.
Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)	Consumer Measures	No specific risk management measure identified beyond those operational conditions stated.
2.18 Contributing scenario	o controlling consumer e	exposure for: PC24: Liquids
	Concentration of the Substance in Mixture/Article	Covers concentrations up to 100%
Product characteristics	Physical Form (at time of use)	liquid
	Vapour pressure	> 10 Pa
Amount used	Amount used per event	2,2 kg
Frequency and duration of use	Frequency of use	4 days/year
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Frequency of use	1 Times per day
· · ·	
Exposure duration per event	10,2 min
Exposed skin areas	Covers skin contact area up to 468 cm <sup>2</sup>
Room size	34 m3
Covers use in a one car ga	rage (34 m3) under typical ventilation.
Consumer Measures	No specific risk management measure identified beyond those operational conditions stated.
controlling consumer e	exposure for: PC24: Pastes
Concentration of the Substance in Mixture/Article	Covers concentrations up to 20%
Physical Form (at time of use)	liquid
Vapour pressure	> 10 Pa
Amount used per event	34 g
Frequency of use	10 days/year
Frequency of use	1 Times per day
Exposure duration per event	360 min
Exposed skin areas	Covers skin contact area up to 468 cm <sup>2</sup>
Room size	20 m3
Covers use under typical h	ousehold ventilation.
Consumer Measures	No specific risk management measure identified beyond those operational conditions stated.
controlling consumer e	exposure for: PC24: Sprays
Concentration of the Substance in Mixture/Article	Covers concentrations up to 50%
Physical Form (at time of use)	liquid
Vapour pressure	> 10 Pa
Amount used per event	73 g
· · ·	
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	Room size Covers use in a one car ga Consumer Measures Concentration of the Substance in Mixture/Article Physical Form (at time of use) Vapour pressure Amount used per event Frequency of use Frequency of use Exposure duration per event Exposed skin areas Room size Covers use under typical h Consumer Measures Concentration of the Substance in Mixture/Article Physical Form (at time of use) Vapour pressure



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	Frequency of use	6 days/year	
Frequency and duration of use	Frequency of use	1 Times per day	
	Exposure duration per event	10,2 min	
Human factors not influenced by risk management	Exposed skin areas	Covers skin contact area up to 428,75 cm <sup>2</sup>	
Other given operational	Room size	20 m3	
conditions affecting consumers exposure	Covers use under typical household ventilation.		
Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)	Consumer Measures	No specific risk management measure identified beyond those operational conditions stated.	
2.21 Contributing scenario washing products	controlling consumer e	exposure for: PC35: Laundry and dish	
	Concentration of the Substance in Mixture/Article	Covers concentrations up to 5%	
Product characteristics	Physical Form (at time of use)	liquid	
	Vapour pressure	> 10 Pa	
Amount used	Amount used per event	15 g	
	Frequency of use	365 days/year	
Frequency and duration of use	Frequency of use	1 Times per day	
	Exposure duration per event	30 min	
Human factors not influenced by	Exposed skin areas	Covers skin contact area up to 857,5 cm <sup>2</sup>	
risk management Other given operational	Room size	20 m3	
conditions affecting consumers exposure	Covers use under typical household ventilation.		
Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)	Consumer Measures	No specific risk management measure identified beyond those operational conditions stated.	
2.22 Contributing scenario		exposure for: PC35: Cleaners, liquids (all ers, glass cleaners, carpet cleaners, metal	
Product characteristics	Concentration of the Substance in Mixture/Article	Covers concentrations up to 5%	
	Physical Form (at time of use)	liquid	

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	Vapour pressure	> 10 Pa		
Amount used	Amount used per event	27 g		
Frequency and duration of use	Frequency of use	128 days/year		
	Frequency of use	1 Times per day		
Frequency and duration of use	Exposure duration per event	19,8 min		
Human factors not influenced by risk management	Exposed skin areas	Covers skin contact area up to 857,5 cm <sup>2</sup>		
Other given operational	Room size	20 m3		
conditions affecting consumers exposure	Covers use under typical household ventilation.			
Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)	Consumer Measures	No specific risk management measure identified beyond those operational conditions stated.		
		exposure for: PC35: Cleaners, trigger sprays leaners)		
	Concentration of the Substance in Mixture/Article	Covers concentrations up to 15%		
Product characteristics	Physical Form (at time of use)	liquid		
	Vapour pressure	> 10 Pa		
Amount used	Amount used per event	35 g		
	Frequency of use	128 days/year		
	Frequency of use	1 Times per day		
Frequency and duration of use	Exposure duration per event	10,2 min		
Human factors not influenced by	Exposed skin areas	Covers skin contact area up to 428 cm <sup>2</sup>		
risk management				
Other given operational conditions affecting consumers	Room size	20 m3		
exposure	Covers use under typical household ventilation.			
Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)	Consumer Measures	No specific risk management measure identified beyond those operational conditions stated.		
	controlling consumer e	exposure for: PC38		
Product characteristics	Concentration of the Substance in Mixture/Article	Covers concentrations up to 20%		
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	Physical Form (at time of use)	liquid	
	Vapour pressure	> 10 Pa	
Amount used	Amount used per event	12 g	
	Frequency of use	365 days/year	
Frequency and duration of use	Frequency of use	1 Times per day	
	Exposure duration per event	60 min	
Human factors not influenced by risk management	Exposed skin areas	Covers skin contact area up to 857,5 cm <sup>2</sup>	
Other given operational	Room size	20 m3	
conditions affecting consumers exposure	Covers use under typical household ventilation.		
Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)	Consumer Measures	No specific risk management measure identified beyond those operational conditions stated.	

### 3. Exposure estimation and reference to its source

### Environment

Contributing Scenario	Specific conditions	Compartment	Value	Level of Exposure	RCR
			Msafe	140 kg/day	
ESV/OC apEBC 9 days have used to avaluate the expegure for the environment					

ESVOC spERC 8.4c.v1 has been used to evaluate the exposure for the environment.

Consumers

The ECETOC TRA tool has been used to estimate consumer exposures unless otherwise indicated.

# 4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

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.

Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-forindustries-libraries.html).

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

For further information on the assessment method, see: http://www.ecetoc.org/tra

Only properly trained persons shall make use of scaling methods while checking whether the OC and RMM are

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within the boundaries set by the ES

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1. Short title of Exposure Scenario 12: Use as binders and release agents					
Main User Groups	SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites				
Process categories	<ul> <li>PROC1: Use in closed process, no likelihood of exposure</li> <li>PROC2: Use in closed, continuous process with occasional controlled exposure</li> <li>PROC3: Use in closed batch process (synthesis or formulation)</li> <li>PROC4: Use in batch and other process (synthesis) where opportunity for</li> <li>exposure arises</li> <li>PROC6: Calendering operations</li> <li>PROC7: Industrial spraying</li> <li>PROC8b: Transfer of substance or preparation (charging/discharging) from/to</li> <li>vessels/large containers at dedicated facilities</li> <li>PROC10: Roller application or brushing</li> <li>PROC13: Treatment of articles by dipping and pouring</li> <li>PROC14: Production of preparations or articles by tabletting, compression,</li> <li>extrusion, pelettisation</li> </ul>				
Environmental Release Categories	ERC4: Industrial use of processing aids in processes and products, not becoming part of articles				
2.1 Contributing scenario co	ontrolling environmental	exposure for: ERC4			
Amount used	Maximum daily site tonnage (kg/day): Regional use tonnage (tons/year): Fraction of EU tonnage used in region: Fraction of Regional tonnage used locally: Annual site tonnage (tons/year):	1700 kg/day 35 ton(s)/year 0,1 1 35 ton(s)/year			
Frequency and duration of use	Continuous exposure	20 days/year			
Environment factors not influenced by risk management	Dilution Factor (River) Dilution Factor (Coastal Areas)	10 100			
Other given operational conditions affecting environmental exposure	Emission or Release Factor: Air Emission or Release Factor: Water Emission or Release Factor: Soil initial release prior to RMM	1,0 3,0.10-7 0			
Technical conditions and measures at process level (source) to prevent release	Air	Treat air emission to provide a typical removal efficiency of (%): (Efficiency: 80 %)			
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## Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics

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Water	If discharging to domestic sewage treatment plant	
Trator	If discharging to domestic sewage treatment plan no onsite wastewater treatment required.	
Water	Prevent discharge of undissolved substance to or recover from onsite wastewater.	
Soil	Risk from environmental exposure is driven by soil.	
Common practices vary across sites thus conservative process release estimates used.		
Type of Sewage Treatment Plant	Domestic sewage treatment plant	
Flow rate of sewage treatment plant effluent	2.000 m3/d	
Degradation efficiency	96,2 %	
Percentage removed from waste water	96,2 %	
Sludge Treatment	Do not apply industrial sludge to natural soils., Sludge should be incinerated, contained or reclaimed.	
Waste treatment	External treatment and disposal of waste should comply with applicable local and/or national regulations.	
Recovery Methods	External recovery and recycling of waste should comply with applicable local and/or national regulations.	
	re for: PROC1, PROC2, PROC3, PROC4, DC14	
Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 % (unless stated differently).	
Physical Form (at time of use)	liquid	
Vapour pressure	0,5 - 10 kPa	
Frequency of use	8 hours/day	
Assumes use at not more t differently.	han 20°C above ambient temperature, unless stated	
Storage	Store substance within a closed system.(PROC1, PROC2)	
	Soil Common practices vary ac estimates used. Type of Sewage Treatment Plant Flow rate of sewage treatment plant effluent Degradation efficiency Percentage removed from waste water Sludge Treatment Waste treatment Waste treatment Recovery Methods ntrolling worker exposu , PROC10, PROC13, PRO Concentration of the Substance in Mixture/Article Physical Form (at time of use) Vapour pressure Frequency of use Assumes use at not more to differently.	

Environment

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## Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics

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Contributing Scenario	Specific conditions	Compartment	Value	Level of Exposure	RCR
			Msafe	19000000 kg/day	
ESV/OC on EBC 4.40 over here have used to eveluate the eveneous for the environment					

ESVOC spERC 4.10a.v1 has been used to evaluate the exposure for the environment.

Workers

The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

# 4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

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.

Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-forindustries-libraries.html).

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

For further information on the assessment method, see: http://www.ecetoc.org/tra

Only properly trained persons shall make use of scaling methods while checking whether the OC and RMM are within the boundaries set by the ES

### Additional good practice advice beyond the REACH Chemical Safety Assessment

Assumes a good basic standard of occupational hygiene is implemented.

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# Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics

Version 1.2

Print Date 06.10.2014

1. Short title of Exposure Sc	enario 13: Use as binde	rs and release agents	
Main User Groups	SU 22: Professional uses: entertainment, services, cra	Public domain (administration, education, aftsmen)	
Process categories	PROC1: Use in closed process, no likelihood of exposurePROC2: Use in closed, continuous process with occasional controlled exposurePROC3: Use in closed batch process (synthesis or formulation)PROC4: Use in batch and other process (synthesis) where opportunity forexposure arisesPROC6: Calendering operationsPROC8a: Transfer of substance or preparation (charging/discharging) from/tovessels/large containers at non-dedicated facilitiesPROC8b: Transfer of substance or preparation (charging/discharging) from/tovessels/large containers at dedicated facilitiesPROC10: Roller application or brushingPROC11: Non industrial sprayingPROC14: Production of preparations or articles by tabletting, compression,extrusion, pelettisation		
Environmental Release Categories	ERC8a: Wide dispersive indoor use of processing aids in open systems ERC8d: Wide dispersive outdoor use of processing aids in open systems		
2.1 Contributing scenario co	ontrolling environmental	exposure for: ERC8a, ERC8d	
	Maximum daily site tonnage (kg/day):	0,00082 kg/day	
	Regional use tonnage (tons/year):	0,6 ton(s)/year	
Amount used	Fraction of EU tonnage used in region:	0,1	
	Fraction of Regional tonnage used locally:	0,0005	
	Annual site tonnage (tons/year):	0,0003 ton(s)/year	
Frequency and duration of use	Continuous exposure	365 days/year	
Environment factors not	Dilution Factor (River)	10	
influenced by risk management	Dilution Factor (Coastal Areas)	100	
	Emission or Release Factor: Air	9,5 .10-1	
Other given operational conditions affecting	Emission or Release Factor: Water	2,5 .10-2	
environmental exposure	Emission or Release Factor: Soil	2,5 .10-2	
	initial release prior to RMM	1	
Technical conditions and	Air	Treat air emission to provide a typical removal	
measures at process level			



# Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics

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(source) to prevent release		efficiency of (%): (Efficiency: 0 %)
Technical onsite conditions and measures to reduce or limit	Water	No wastewater treatment required.
discharges, air emissions and releases to soil	Water	If discharging to domestic sewage treatment plant, no onsite wastewater treatment required.
Organizational measures to prevent/limit release from the site	Water	Risk from environmental exposure is driven by freshwater.
	Common practices vary ac estimates used.	cross sites thus conservative process release
	Type of Sewage Treatment Plant	Domestic sewage treatment plant
	Flow rate of sewage treatment plant effluent	2.000 m3/d
Conditions and measures related	Degradation efficiency	96,2 %
to sewage treatment plant	Percentage removed from waste water	96,2 %
	Sludge Treatment	Do not apply industrial sludge to natural soils., Sludge should be incinerated, contained or reclaimed.
Conditions and measures related to external treatment of waste for disposal	Waste treatment	External treatment and disposal of waste should comply with applicable local and/or national regulations.
Conditions and measures related to external recovery of waste	Recovery Methods	External recovery and recycling of waste should comply with applicable local and/or national regulations.
2.2 Contributing scenario co PROC6, PROC8a, PROC8		re for: PROC1, PROC2, PROC3, PROC4, ROC14
	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 % (unless stated differently).
Product characteristics	Physical Form (at time of use)	liquid
	Vapour pressure	0,5 - 10 kPa
Frequency and duration of use	Frequency of use	8 hours/day
Other operational conditions affecting workers exposure	Assumes use at not more differently.	than 20°C above ambient temperature, unless stated
Technical conditions and	Bulk transfers (closed systems)	Transfer via enclosed lines.(PROC1)
Technical conditions and measures to control dispersion from source towards the worker	Bulk transfers (closed systems)	Transfer via enclosed lines.(PROC2)
	Bulk transfers (closed systems)	Transfer via enclosed lines.(PROC3)

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## Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics

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Casting operations (open systems) Elevated temperature	provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). or Avoid carrying out operation for more than 4 hours.(PROC6)
Spraying Machine	provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). or Avoid carrying out operation for more than 4 hours.(PROC11)
Spraying Manual	provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). or Avoid carrying out operation for more than 4 hours.(PROC11)
Storage	Store substance within a closed system.(PROC1, PROC2)

#### 3. Exposure estimation and reference to its source

#### Environment

Contributing Scenario	Specific conditions	Compartment	Value	Level of Exposure	RCR
			Msafe	12 kg/day	
ESVOC spERC 8	8 10b v1 has been used to	o evaluate the exposu	ire for the environi	ment	

#### Workers

The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

# 4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

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.

Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-for-industries-libraries.html).

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

For further information on the assessment method, see: http://www.ecetoc.org/tra

Only properly trained persons shall make use of scaling methods while checking whether the OC and RMM are within the boundaries set by the ES

#### Additional good practice advice beyond the REACH Chemical Safety Assessment

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Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics

Version 1.2

Print Date 06.10.2014

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Assumes a good basic standard of occupational hygiene is implemented.



# Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics

Version 1.2

Print Date 06.10.2014

1. Short title of Exposure So	enario 14: Use as a fuel		
Main User Groups	SU 3: Industrial uses: Use sites	es of substances as such or in preparations at industrial	
Process categories	PROC1: Use in closed process, no likelihood of exposure PROC2: Use in closed, continuous process with occasional controlled exposure PROC3: Use in closed batch process (synthesis or formulation) PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities PROC16: Using material as fuel sources, limited exposure to unburned product to be expected		
Environmental Release Categories	ERC7: Industrial use of substances in closed systems		
2.1 Contributing scenario co	ontrolling environmenta	l exposure for: ERC7	
	Maximum daily site tonnage (kg/day):	500 kg/day	
	Regional use tonnage (tons/year):	10 ton(s)/year	
Amount used	Fraction of EU tonnage used in region:	0,1	
	Fraction of Regional tonnage used locally:	1	
	Annual site tonnage (tons/year):	10 ton(s)/year	
Frequency and duration of use	Continuous exposure	20 days/year	
	Dilution Factor (River)	10	
Environment factors not influenced by risk management	Dilution Factor (Coastal Areas)	100	
	Emission or Release Factor: Air	5,0 .10-2	
Other given operational conditions affecting	Emission or Release Factor: Water	1,0 .10-5	
environmental exposure	Emission or Release Factor: Soil	0	
	initial release prior to RMM	Λ	
Technical conditions and measures at process level	Air	Treat air emission to provide a typical removal efficiency of (%): (Efficiency: 95 %)	
(source) to prevent release Technical onsite conditions and	Water	No wastewater treatment required.	
measures to reduce or limit discharges, air emissions and releases to soil	Water	If discharging to domestic sewage treatment plant, no onsite wastewater treatment required.	
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# Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics

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Frequency and duration of use Other operational conditions affecting workers exposure Technical conditions and measures to control dispersion from source towards the worker	Assumes use at not more i differently. General exposures (closed systems) General exposures (closed systems) General exposures (closed systems) Bulk transfers Use as a fuel (closed systems)	Handle substance within a closed system.(PROC1) Handle substance within a closed system.(PROC2) Handle substance within a closed system.(PROC3) Handle substance within a closed system.(PROC8b) Handle substance within a closed system.(PROC16)
Other operational conditions affecting workers exposure Technical conditions and measures to control dispersion	differently. General exposures (closed systems) General exposures (closed systems) General exposures (closed systems)	Handle substance within a closed system.(PROC1) Handle substance within a closed system.(PROC2) Handle substance within a closed system.(PROC3) Handle substance within a closed
Other operational conditions affecting workers exposure Technical conditions and measures to control dispersion	differently. General exposures (closed systems) General exposures (closed systems) General exposures	Handle substance within a closed system.(PROC1) Handle substance within a closed system.(PROC2)
Other operational conditions affecting workers exposure	differently. General exposures (closed systems) General exposures	Handle substance within a closed system.(PROC1)
Other operational conditions	differently. General exposures	· · ·
Other operational conditions		
Frequency and duration of use	Assumes use at not more than 20°C above ambient temperature, unless sta	
Francisco and de la Contra	Frequency of use	8 hours/day
	Vapour pressure	0,5 - 10 kPa
Product characteristics	Physical Form (at time of use)	liquid
Desident characteristic	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 % (unless stated differently).
2.2 Contributing scenario co PROC8b, PROC16	ntrolling worker exposu	re for: PROC1, PROC2, PROC3, PROC8a,
Conditions and measures related to external recovery of waste	Recovery Methods	This substance is consumed during use and no waste of the substance is generated.
Conditions and measures related to external treatment of waste for disposal	Waste treatment	Combustion emissions limited by required exhaust emission controls., Combustion emissions considered in regional exposure assessment.
	Sludge Treatment	Do not apply industrial sludge to natural soils., Sludge should be incinerated, contained or reclaimed.
to sewage treatment plant	Percentage removed from waste water	96,2 %
Conditions and measures related	Degradation efficiency	96,2 %
	Flow rate of sewage treatment plant effluent	2.000 m3/d
	Type of Sewage Treatment Plant	Domestic sewage treatment plant
	Common practices vary ac estimates used.	ross sites thus conservative process release
	Sediment	Risk from environmental exposure is driven by freshwater sediment.
	1	recover from onsite wastewater.



## Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics

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Storage

Store substance within a closed system.(PROC1, PROC2)

3. Exposure estimation and reference to its source

Environment						
Contributing Scenario	Specific conditions	Compartment	Value	Level of Exposure	RCR	
			Msafe	2600000 kg/day		
ESVOC spERC	7.12a.v1 has been used to	o evaluate the exposu	ire for the environ	ment.		
Workers						
The ECETOC TR	RA tool has been used to	estimate workplace ex	xposures unless o	therwise indicated	J	
	to Downstream User to Scenario	o evaluate whethe	r he works insi	de the boundar	ies set by the	
Exposure Scenario 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. Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-for- industries-libraries.html). Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. For further information on the assessment method, see: http://www.ecetoc.org/tra Only properly trained persons shall make use of scaling methods while checking whether the OC and RMM are within the boundaries set by the ES						
Additional good	I practice advice beyond	the REACH Chemic	al Safety Assess	sment		
Assumes a good	d basic standard of occupa	ational hygiene is imp	lemented.			



# Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics

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1. Short title of Exposure Sc	enario 15: Use as a fuel		
Main User Groups	SU 22: Professional uses: entertainment, services, cra	Public domain (administration, education, aftsmen)	
Process categories	PROC1: Use in closed process, no likelihood of exposure PROC2: Use in closed, continuous process with occasional controlled exposure PROC3: Use in closed batch process (synthesis or formulation) PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities PROC16: Using material as fuel sources, limited exposure to unburned product to be expected		
Environmental Release Categories	ERC9a: Wide dispersive indoor use of substances in closed systems ERC9b: Wide dispersive outdoor use of substances in closed systems		
	• ·	exposure for: ERC9a, ERC9b	
	Maximum daily site tonnage (kg/day):	0,014 kg/day	
	Regional use tonnage (tons/year):	10 ton(s)/year	
Amount used	Fraction of EU tonnage used in region:	0,1	
	Fraction of Regional tonnage used locally:	0,0005	
	Annual site tonnage (tons/year):	0,005 ton(s)/year	
Frequency and duration of use	Continuous exposure	365 days/year	
Environment feators not	Dilution Factor (River)	10	
Environment factors not influenced by risk management	Dilution Factor (Coastal Areas)	100	
	Emission or Release Factor: Air	1,0 .10-3	
Other given operational conditions affecting	Emission or Release Factor: Water	1,0 .10-5	
environmental exposure	Emission or Release Factor: Soil	1,0 .10-5	
	initial release prior to RMM		
Technical conditions and measures at process level	Air	Treat air emission to provide a typical removal efficiency of (%): (Efficiency: 0 %)	
(source) to prevent release Technical onsite conditions and	Water	No wastewater treatment required.	
measures to reduce or limit discharges, air emissions and releases to soil	Water	If discharging to domestic sewage treatment plant, no onsite wastewater treatment required.	
	l 		
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# Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics

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Organizational measures to prevent/limit release from the site	Water	Risk from environmental exposure is driven by freshwater.
	Common practices vary ac estimates used.	cross sites thus conservative process release
	Type of Sewage Treatment Plant	Domestic sewage treatment plant
	Flow rate of sewage treatment plant effluent	2.000 m3/d
Conditions and measures related	Degradation efficiency	96,2 %
to sewage treatment plant	Percentage removed from waste water	96,2 %
	Sludge Treatment	Do not apply industrial sludge to natural soils., Sludge should be incinerated, contained or reclaimed.
Conditions and measures related to external treatment of waste for disposal	Waste treatment	Combustion emissions limited by required exhaust emission controls., Combustion emissions considered in regional exposure assessment.
Conditions and measures related to external recovery of waste	Recovery Methods	This substance is consumed during use and no waste of the substance is generated.
2.2 Contributing scenario co PROC8b, PROC16	ntrolling worker exposu	re for: PROC1, PROC2, PROC3, PROC8a,
	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 % (unless stated differently).
	Substance in	
· · · · · · · · · · · · · · · · · · ·	Substance in Mixture/Article Physical Form (at time of	100 % (unless stated differently).
Product characteristics	Substance in Mixture/Article Physical Form (at time of use)	100 % (unless stated differently).
Product characteristics Frequency and duration of use Other operational conditions	Substance in Mixture/Article Physical Form (at time of use) Vapour pressure Frequency of use	100 % (unless stated differently).         liquid         0,5 - 10 kPa         8 hours/day
Product characteristics Frequency and duration of use Other operational conditions	Substance in Mixture/Article Physical Form (at time of use) Vapour pressure Frequency of use Assumes use at not more	100 % (unless stated differently).         liquid         0,5 - 10 kPa         8 hours/day
Product characteristics Frequency and duration of use Other operational conditions	Substance in Mixture/Article Physical Form (at time of use) Vapour pressure Frequency of use Assumes use at not more differently. General exposures	100 % (unless stated differently). liquid 0,5 - 10 kPa 8 hours/day than 20°C above ambient temperature, unless stated
Product characteristics Frequency and duration of use Other operational conditions affecting workers exposure	Substance in Mixture/Article Physical Form (at time of use) Vapour pressure Frequency of use Assumes use at not more differently. General exposures (closed systems) General exposures	100 % (unless stated differently). liquid 0,5 - 10 kPa 8 hours/day than 20°C above ambient temperature, unless stated Handle substance within a closed system.(PROC1)
Product characteristics Frequency and duration of use Other operational conditions affecting workers exposure Technical conditions and measures to control dispersion	Substance in Mixture/Article Physical Form (at time of use) Vapour pressure Frequency of use Assumes use at not more differently. General exposures (closed systems) General exposures (closed systems) General exposures	100 % (unless stated differently).         liquid         0,5 - 10 kPa         8 hours/day         than 20°C above ambient temperature, unless stated         Handle substance within a closed system.(PROC1)         Handle substance within a closed system.(PROC2)
Product characteristics Frequency and duration of use Other operational conditions affecting workers exposure Technical conditions and measures to control dispersion	Substance in Mixture/Article Physical Form (at time of use) Vapour pressure Frequency of use Assumes use at not more differently. General exposures (closed systems) General exposures (closed systems) General exposures (closed systems)	100 % (unless stated differently).         liquid         0,5 - 10 kPa         8 hours/day         than 20°C above ambient temperature, unless stated         Handle substance within a closed system.(PROC1)         Handle substance within a closed system.(PROC2)         Handle substance within a closed system.(PROC3)         Handle substance within a closed system.
Product characteristics Frequency and duration of use Other operational conditions affecting workers exposure Technical conditions and measures to control dispersion from source towards the worker	Substance in Mixture/Article Physical Form (at time of use) Vapour pressure Frequency of use Assumes use at not more differently. General exposures (closed systems) General exposures (closed systems) General exposures (closed systems) Bulk transfers Use as a fuel (closed	100 % (unless stated differently).         liquid         0,5 - 10 kPa         8 hours/day         than 20°C above ambient temperature, unless stated         Handle substance within a closed system.(PROC1)         Handle substance within a closed system.(PROC2)         Handle substance within a closed system.(PROC3)         Handle substance within a closed system.(PROC3)         Handle substance within a closed system.         Clear transfer lines prior to de-coupling.         Handle substance within a closed



## Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics

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#### 3. Exposure estimation and reference to its source

Environment

Contributing Scenario	Specific conditions	Compartment	Value	Level of Exposure	RCR
			Msafe	210 kg/day	

ESVOC spERC 9.12b.v1 has been used to evaluate the exposure for the environment.

#### Workers

The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

# 4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

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.

Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-forindustries-libraries.html).

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

For further information on the assessment method, see: http://www.ecetoc.org/tra

Only properly trained persons shall make use of scaling methods while checking whether the OC and RMM are within the boundaries set by the ES

#### Additional good practice advice beyond the REACH Chemical Safety Assessment

Assumes a good basic standard of occupational hygiene is implemented.



# Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics

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Main User Groups	SU 21: Consumer uses: Private households (= general public = consumers)		
Chemical product category	PC13: Fuels		
Environmental Release Categories	ERC9a: Wide dispersive indoor use of substances in closed systems ERC9b: Wide dispersive outdoor use of substances in closed systems		
2.1 Contributing scenario co	ntrolling environmenta	l exposure for: ERC9a, ERC9b	
	Maximum daily site tonnage (kg/day):	0,014 kg/day	
	Regional use tonnage (tons/year):	10 ton(s)/year	
Amount used	Fraction of EU tonnage used in region:	0,1	
	Fraction of Regional tonnage used locally:	0,0005	
	Annual site tonnage (tons/year):	0,005 ton(s)/year	
Frequency and duration of use	Continuous exposure	365 days/year	
Environment factors not	Dilution Factor (River)	10	
influenced by risk management	Dilution Factor (Coastal Areas)	100	
	Emission or Release Factor: Air	1,0 .10-3	
Other given operational conditions affecting	Emission or Release Factor: Water	1,0 .10-5	
environmental exposure	Emission or Release Factor: Soil	1,0 .10-5	
	initial release prior to RM	M	
Technical conditions and measures at process level	Water	Risk from environmental exposure is driven by freshwater.	
(source) to prevent release Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil Organizational measures to prevent/limit release from the site			
	Type of Sewage Treatment Plant	Domestic sewage treatment plant	
Conditions and measures related to sewage treatment plant	Flow rate of sewage treatment plant effluent	2.000 m3/d	
	Percentage removed from waste water	96,2 %	
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Conditions and measures related to external treatment of waste for disposal	Waste treatment	Combustion emissions limited by required exhaust emission controls., Combustion emissions considered in regional exposure assessment.
Conditions and measures related to external recovery of waste	Recovery Methods	This substance is consumed during use and no waste of the substance is generated.
2.2 Contributing scenario co Refuelling	ntrolling consumer expo	osure for: PC13: Liquid: Automotive
	Concentration of the Substance in Mixture/Article	Covers concentrations up to 100%
Product characteristics	Physical Form (at time of use)	liquid
	Vapour pressure	> 10 Pa
Amount used	Amount used per event	37,5 kg
	Frequency of use	52 days/year
Frequency and duration of use	Frequency of use	1 Times per day
	Exposure duration per event	3 min
Human factors not influenced by risk management	Exposed skin areas	Covers skin contact area up to 210 cm <sup>2</sup>
Other given operational	Room size	100 m3
conditions affecting consumers	Covers outdoor use.	
exposure		
Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)	Consumer Measures	No specific risk management measure identified beyond those operational conditions stated.
	ntrolling consumer expo	osure for: PC13: Liquid: Scooter Refuelling
	Concentration of the Substance in Mixture/Article	Covers concentrations up to 100%
Product characteristics	Physical Form (at time of use)	liquid
	Vapour pressure	> 10 Pa
Amount used	Amount used per event	3,75 kg
	Frequency of use	52 days/year
Frequency and duration of use	Frequency of use	1 Times per day
	Exposure duration per event	1,8 min
Human factors not influenced by risk management	Exposed skin areas	Covers skin contact area up to 210 cm <sup>2</sup>



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Other given operational	Room size	100 m3			
conditions affecting consumers exposure	Covers outdoor use.				
Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)	Consumer Measures	No specific risk management measure identified beyond those operational conditions stated.			
2.4 Contributing scenario co Use	ntrolling consumer expo	osure for: PC13: Liquid: Garden Equipment			
	Concentration of the Substance in Mixture/Article	Covers concentrations up to 100%			
Product characteristics	Physical Form (at time of use)	liquid			
	Vapour pressure	> 10 Pa			
Amount used	Amount used har aver t	750 %			
Amount used	Amount used per event	750 g			
	Frequency of use	26 days/year			
Frequency and duration of use	Frequency of use	1 Times per day			
	Exposure duration per event	120 min			
Other given operational	Room size	100 m3			
conditions affecting consumers exposure	Covers outdoor use.	Covers outdoor use.			
Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)	Consumer Measures	No specific risk management measure identified beyond those operational conditions stated.			
2.5 Contributing scenario co Refueling	ntrolling consumer expo	osure for: PC13: Liquid: Garden Equipment			
	Concentration of the Substance in Mixture/Article	Covers concentrations up to 100%			
Product characteristics	Physical Form (at time of use)	liquid			
	Vapour pressure	> 10 Pa			
Amount used	Amount used per event	750 g			
	Frequency of use	26 days/year			
	Frequency of use	1 Times per day			
Free and and all methods after	Exposure duration per	1,8 min			
Frequency and duration of use	event				
Frequency and duration of use Human factors not influenced by		Covers skin contact area up to 420 cm <sup>2</sup>			



# Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics

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risk management				
Other given operational	Room size	34 m3		
conditions affecting consumers exposure	Covers use in a one car garage (34 m3) under typical ventilation.			
Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)	Consumer Measures	No specific risk management measure identified beyond those operational conditions stated.		
2.6 Contributing scenario co	ntrolling consumer expo	osure for: PC13: Liquid: home space heater		
fuel	Concentration of the Substance in Mixture/Article	Covers concentrations up to 100%		
Product characteristics	Physical Form (at time of use)	liquid		
	Vapour pressure	> 10 Pa		
Amount used	Amount used per event	3 kg		
	Frequency of use	365 days/year		
Frequency and duration of use	Frequency of use	1 Times per day		
	Exposure duration per event	1,8 min		
Human factors not influenced by risk management	Exposed skin areas	Covers skin contact area up to 210 cm <sup>2</sup>		
Other given operational	Room size	20 m3		
conditions affecting consumers exposure	Covers use under typical h	ousehold ventilation.		
Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)	Consumer Measures	No specific risk management measure identified beyond those operational conditions stated.		
	ntrolling consumer expo	osure for: PC13: Liquid: Lamp oil		
	Concentration of the Substance in Mixture/Article	Covers concentrations up to 100%		
Product characteristics	Physical Form (at time of use)	liquid		
	Vapour pressure	> 10 Pa		
Amount used	Amount used per event	100 g		
	Frequency of use	52 days/year		
Frequency and duration of use	Frequency of use	1 Times per day		
	Exposure duration per	0,6 min		
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	event	
Human factors not influenced by risk management	Exposed skin areas	Covers skin contact area up to 210 cm <sup>2</sup>
Other given operational conditions affecting consumers	Room size Covers use under typical h	20 m3 ousehold ventilation.
exposure Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)	Consumer Measures	No specific risk management measure identified beyond those operational conditions stated.

#### 3. Exposure estimation and reference to its source

#### Environment

Contributing Scenario	Specific conditions	Compartment	Value	Level of Exposure	RCR
			Msafe	210 kg/day	
	0.12c v1 bac boon used to	a avaluata tha avaacu	ro for the onviron	mont	

ESVOC spERC 9.12c.v1 has been used to evaluate the exposure for the environment.

Consumers

The ECETOC TRA tool has been used to estimate consumer exposures unless otherwise indicated.

# 4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

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.

Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-forindustries-libraries.html).

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

For further information on the assessment method, see: http://www.ecetoc.org/tra

Only properly trained persons shall make use of scaling methods while checking whether the OC and RMM are within the boundaries set by the ES



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Main User Groups	SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites			
Process categories	<ul> <li>PROC1: Use in closed process, no likelihood of exposure</li> <li>PROC2: Use in closed, continuous process with occasional controlled exposure</li> <li>PROC3: Use in closed batch process (synthesis or formulation)</li> <li>PROC4: Use in batch and other process (synthesis) where opportunity for</li> <li>exposure arises</li> <li>PROC7: Industrial spraying</li> <li>PROC8a: Transfer of substance or preparation (charging/discharging) from/to</li> <li>vessels/large containers at non-dedicated facilities</li> <li>PROC8b: Transfer of substance or preparation (charging/discharging) from/to</li> <li>vessels/large containers at dedicated facilities</li> <li>PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)</li> <li>PROC10: Roller application or brushing</li> <li>PROC13: Treatment of articles by dipping and pouring</li> <li>PROC17: Lubrication at high energy conditions and in partly open process</li> <li>PROC18: Greasing at high energy conditions</li> </ul>			
Environmental Release Categories	ERC4: Industrial use of processing aids in processes and products, not becomin part of articles ERC7: Industrial use of substances in closed systems			
2.1 Contributing scenario co	ontrolling environmenta	exposure for: ERC4, ERC7		
	Maximum daily site tonnage (kg/day):	1200 kg/day		
	Regional use tonnage (tons/year):	24 ton(s)/year		
Amount used	Fraction of EU tonnage used in region:	0,1		
	Fraction of Regional tonnage used locally:	1		
	Annual site tonnage (tons/year):	24 ton(s)/year		
Frequency and duration of use	Continuous exposure	20 days/year		
	Dilution Factor (River)	10		
Environment factors not influenced by risk management	Dilution Factor (Coastal Areas)	100		
	Emission or Release Factor: Air	1,0 .10-2		
Other given operational conditions affecting	Emission or Release Factor: Water	3,0 .10-6		
environmental exposure	Emission or Release Factor: Soil	1,0 .10-3		



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	initial release prior to RMM		
	Air	Treat air emission to provide a typical removal efficiency of (%): (Efficiency: 70 %)	
Technical conditions and	Water	No wastewater treatment required.	
measures at process level (source) to prevent release	Water	If discharging to domestic sewage treatment plant, no onsite wastewater treatment required.	
Technical onsite conditions and measures to reduce or limit discharges, air emissions and	Water	Prevent discharge of undissolved substance to or recover from onsite wastewater.	
releases to soil Organizational measures to	Sediment	Risk from environmental exposure is driven by freshwater sediment.	
prevent/limit release from the site	Common practices vary ac estimates used.	ross sites thus conservative process release	
	Type of Sewage Treatment Plant	Domestic sewage treatment plant	
	Flow rate of sewage treatment plant effluent	2.000 m3/d	
Conditions and measures related	Degradation efficiency	96,2 %	
to sewage treatment plant	Percentage removed from waste water	96,2 %	
	Sludge Treatment	Do not apply industrial sludge to natural soils., Sludge should be incinerated, contained or reclaimed.	
Conditions and measures related to external treatment of waste for disposal	Waste treatment	External treatment and disposal of waste should comply with applicable local and/or national regulations.	
Conditions and measures related to external recovery of waste	Recovery Methods	External recovery and recycling of waste should comply with applicable local and/or national regulations.	
2.2 Contributing scenario co PROC7, PROC8a, PROC8		re for: PROC1, PROC2, PROC3, PROC4, DC13, PROC17, PROC18	
	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 % (unless stated differently).	
Product characteristics	Physical Form (at time of use)	liquid	
	Vapour pressure	0,5 - 10 kPa	
Frequency and duration of use	Frequency of use	8 hours/day	
Other operational conditions affecting workers exposure	Assumes use at not more t differently.	han 20°C above ambient temperature, unless stated	
Technical conditions and measures to control dispersion	Storage	Store substance within a closed system.(PROC1, PROC2)	
from source towards the worker			
from source towards the worker P5894	80/118	E	



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#### 3. Exposure estimation and reference to its source

Environment

Contributing Scenario	Specific conditions	Compartment	Value	Level of Exposure	RCR
			Msafe	8500000 kg/day	
ESVOC spERC	4.6a.v1 has been used to	evaluate the exposur	e for the environn	nent.	
Vorkers					
	RA tool has been used to	ostimato workplaco o		thorwise indicator	4
		•			
	o Downstream User t	o evaluate whethe	er he works ins	ide the boundar	ies set by the
Exposure \$	Scenario				
	sed on assumed operatin			ole to all sites; thus	s, scaling may
	o define appropriate site-s				
	val efficiency for wastewa	iter can be achieved u	using onsite/offsite	e technologies, eith	ner alone or in
combination.					
	val efficiency for air can b on scaling and control teo				
industries-libra		sinologies are provide	eu in Sperio lacis	sneet (http://cenc.o	ig/en/reacti-ioi
	sk Management Measure	es/Operational Condit	ions are adopted.	then users should	ensure that
	ged to at least equivalent				
			hunny agatag arg/t		
	rmation on the assessme				
Only properly t	rained persons shall make				and RMM are
Only properly t					and RMM are
Only properly to within the bound	rained persons shall make	e use of scaling meth	ods while checkin	g whether the OC	and RMM are
Only properly to within the boun	rained persons shall make daries set by the ES	e use of scaling meth	ods while checkin	g whether the OC	and RMM are
Only properly to within the boun	rained persons shall make daries set by the ES practice advice beyond	e use of scaling meth	ods while checkin	g whether the OC	and RMM are
Only properly to within the boun	rained persons shall make daries set by the ES practice advice beyond	e use of scaling meth	ods while checkin	g whether the OC	and RMM are
Only properly to within the boun	rained persons shall make daries set by the ES practice advice beyond	e use of scaling meth	ods while checkin	g whether the OC	and RMM are
Only properly to within the boun	rained persons shall make daries set by the ES practice advice beyond	e use of scaling meth	ods while checkin	g whether the OC	and RMM are
Only properly to within the boun	rained persons shall make daries set by the ES practice advice beyond	e use of scaling meth	ods while checkin	g whether the OC	and RMM are
Only properly to within the boun	rained persons shall make daries set by the ES practice advice beyond	e use of scaling meth	ods while checkin	g whether the OC	and RMM are
Only properly to within the boun	rained persons shall make daries set by the ES practice advice beyond	e use of scaling meth	ods while checkin	g whether the OC	and RMM are
Only properly to within the boun	rained persons shall make daries set by the ES practice advice beyond	e use of scaling meth	ods while checkin	g whether the OC	and RMM are
Only properly to within the boun	rained persons shall make daries set by the ES practice advice beyond	e use of scaling meth	ods while checkin	g whether the OC	and RMM are
Only properly to within the boun	rained persons shall make daries set by the ES practice advice beyond	e use of scaling meth	ods while checkin	g whether the OC	and RMM are



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#### 1. Short title of Exposure Scenario 18: Use as lubricants

Main User Groups	SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Process categories	<ul> <li>PROC1: Use in closed process, no likelihood of exposure</li> <li>PROC2: Use in closed, continuous process with occasional controlled exposure</li> <li>PROC3: Use in closed batch process (synthesis or formulation)</li> <li>PROC4: Use in batch and other process (synthesis) where opportunity for</li> <li>exposure arises</li> <li>PROC8a: Transfer of substance or preparation (charging/discharging) from/to</li> <li>vessels/large containers at non-dedicated facilities</li> <li>PROC8b: Transfer of substance or preparation (charging/discharging) from/to</li> <li>vessels/large containers at dedicated facilities</li> <li>PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)</li> <li>PROC10: Roller application or brushing</li> <li>PROC11: Non industrial spraying</li> <li>PROC13: Treatment of articles by dipping and pouring</li> <li>PROC18: Greasing at high energy conditions and in partly open process</li> <li>PROC20: Heat and pressure transfer fluids in dispersive, professional use but closed systems</li> </ul>
Environmental Release Categories	ERC8a: Wide dispersive indoor use of processing aids in open systems ERC8d: Wide dispersive outdoor use of processing aids in open systems ERC9a: Wide dispersive indoor use of substances in closed systems ERC9b: Wide dispersive outdoor use of substances in closed systems

## 2.1 Contributing scenario controlling environmental exposure for: ERC8a, ERC8d, ERC9a, ERC9b

	Maximum daily site tonnage (kg/day):	0,016 kg/day
	Regional use tonnage (tons/year):	12 ton(s)/year
Amount used	Fraction of EU tonnage used in region:	0,1
	Fraction of Regional tonnage used locally:	0,0005
	Annual site tonnage (tons/year):	0,0059 ton(s)/year
Frequency and duration of use	Continuous exposure	365 days/year
Environment feators not	Dilution Factor (River)	10
Environment factors not influenced by risk management	Dilution Factor (Coastal Areas)	100
Other given operational conditions affecting	Emission or Release Factor: Air	4,0 .10-1 (ERC8a, ERC8d)
environmental exposure		



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	Emission or Release Factor: Water	5,0 .10-2 (ERC8a, ERC8d)	
	Emission or Release Factor: Soil	5,0 .10-2 (ERC8a, ERC8d)	
	initial release prior to RMM	٨ (ERC8a, ERC8d)	
	Emission or Release Factor: Air	1,0 .10-2 (ERC9a, ERC9b)	
	Emission or Release Factor: Water	1,0 .10-2 (ERC9a, ERC9b)	
	Emission or Release Factor: Soil	1,0 .10-2 (ERC9a, ERC9b)	
	initial release prior to RM	M (ERC9a, ERC9b)	
Technical conditions and	Air	Treat air emission to provide a typical removal efficiency of (%): (Efficiency: 0 %)	
measures at process level	Water	No wastewater treatment required.	
(source) to prevent release Technical onsite conditions and measures to reduce or limit	Water	If discharging to domestic sewage treatment plant, no onsite wastewater treatment required.	
discharges, air emissions and releases to soil	Water	Risk from environmental exposure is driven by freshwater.	
Organizational measures to prevent/limit release from the site	Common practices vary across sites thus conservative process release estimates used.		
		1	
	Type of Sewage Treatment Plant	Domestic sewage treatment plant	
	Flow rate of sewage treatment plant effluent	2.000 m3/d	
Conditions and measures related	Degradation efficiency	96,2 %	
o sewage treatment plant	Percentage removed from waste water	96,2 %	
	Sludge Treatment	Do not apply industrial sludge to natural soils., Sludge should be incinerated, contained or reclaimed.	
Conditions and measures related to external treatment of waste for disposal	Waste treatment	External treatment and disposal of waste should comply with applicable local and/or national regulations.	
Conditions and measures related to external recovery of waste	Recovery Methods	External recovery and recycling of waste should comply with applicable local and/or national regulations.	
		ure for: PROC1, PROC2, PROC3, PROC4, ROC13, PROC17, PROC18, PROC20	
Product characteristics	Concentration of the Substance in	Covers percentage substance in the product up to 100 % (unless stated differently).	



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	Mixture/Article		
	Physical Form (at time of use)	liquid	
	Vapour pressure	0,5 - 10 kPa	
Frequency and duration of use	Frequency of use	8 hours/day	
Other operational conditions affecting workers exposure	Assumes use at not more differently.	than 20°C above ambient temperature, unless stated	
	General exposures (closed systems)	Handle substance within a closed system.(PROC1)	
	General exposures (closed systems)	Handle substance within a closed system.(PROC	
Technical conditions and	General exposures (closed systems)	Handle substance within a closed system.(PROC	
Technical conditions and measures to control dispersion from source towards the worker	Maintenance of small items Elevated temperature Non-dedicated facility	Drain down system prior to equipment break-in or maintenance.(PROC8a)	
	Spraying	provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).(PROC11)	
	Storage	Store substance within a closed system.(PROC1, PROC2)	

#### 3. Exposure estimation and reference to its source

#### Environment

The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model.

Contributing Scenario	Specific conditions	Compartment	Value	Level of Exposure	RCR
ERC8a, ERC8d			Msafe	170 kg/day	
ERC9a, ERC9b			Msafe	220 kg/day	
ESVOC spERC 8.6c.v1 has been used to evaluate the exposure for the environment. ESVOC spERC 9.6b.v1 has been used to evaluate the exposure for the environment.					
Workers					
The ECETOC TR	RA tool has been used to	estimate workplace e:	xposures unless o	therwise indicated	
4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario					
	sed on assumed operatin			le 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.



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Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-for-industries-libraries.html).

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

For further information on the assessment method, see: http://www.ecetoc.org/tra

Only properly trained persons shall make use of scaling methods while checking whether the OC and RMM are within the boundaries set by the ES

Additional good practice advice beyond the REACH Chemical Safety Assessment

Assumes a good basic standard of occupational hygiene is implemented.



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# 1. Short title of Exposure Scenario 19: Use as lubricants Main User Groups SU 21: Consumer uses: Private households (= general public = consumers) PC1: Adhesives, sealants PC24: Lubricants, greases, release products PC31: Polishes and wax blends PC31: Polishes and wax blends Environmental Release ERC8a: Wide dispersive indoor use of processing aids in open systems ERC8d: Wide dispersive outdoor use of substances in closed systems ERC9a: Wide dispersive outdoor use of substances in closed systems

#### 2.1 Contributing scenario controlling environmental exposure for: ERC8a, ERC8d, ERC9a, ERC9b

-	-	-	
	Maximum daily site tonnage (kg/day):	0,0068 kg/day	
Amount used	Regional use tonnage (tons/year):	5 ton(s)/year	
	Fraction of EU tonnage used in region:	0,1	
	Fraction of Regional tonnage used locally:	0,0005	
	Annual site tonnage (tons/year):	0,0025 ton(s)/year	
Frequency and duration of use	Continuous exposure	365 days/year	
Environment factors not	Dilution Factor (River)	10	
influenced by risk management	Dilution Factor (Coastal Areas)	100	
	Emission or Release Factor: Air	4,0 .10-1 (ERC8a, ERC8d)	
	Emission or Release Factor: Water	5,0 .10-2 (ERC8a, ERC8d)	
	Emission or Release Factor: Soil5,0 .10-2 (ERC8a, ERC8d)		
Other given operational conditions affecting	initial release prior to RMM (ERC8a, ERC8d)		
environmental exposure	Emission or Release Factor: Air	1,0 .10-2 (ERC9a, ERC9b)	
	Emission or Release Factor: Water	1,0 .10-2 (ERC9a, ERC9b)	
	Emission or Release Factor: Soil 1,0 .10-2 (ERC9a, ERC9b)		
	initial release prior to RMM	1 (ERC9a, ERC9b)	
Technical conditions and measures at process level	Water	Risk from environmental exposure is driven by freshwater.	
(source) to prevent release			
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Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil Organizational measures to prevent/limit release from the site			
	Type of Sewage Treatment Plant	Domestic sewage treatment plant	
Conditions and measures related to sewage treatment plant	Flow rate of sewage treatment plant effluent	2.000 m3/d	
	Percentage removed from waste water	96,2 %	
Conditions and measures related to external treatment of waste for disposal	Waste treatment Waste treatment and disposal of waste shows the second s		
Conditions and measures related to external recovery of waste	Recovery Methods External recovery and recycling of waste should comply with applicable local and/or national regulations.		
2.2 Contributing scenario co	ntrolling consumer expo	osure for: PC1: Glues, hobby use	
	Concentration of the Substance in Mixture/Article	Covers concentrations up to 30%	
Product characteristics	Physical Form (at time of use)	liquid	
	Vapour pressure	> 10 Pa	
Amount used	Amount used per event	9 g	
	Frequency of use	365 days/year	
Frequency and duration of use	Frequency of use	1 Times per day	
Trequency and duration of use	Exposure duration per event	240 min	
Human factors not influenced by	Exposed skin areas	Covers skin contact area up to 35,73 cm <sup>2</sup>	
risk management Other given operational	Room size	20 m3	
conditions affecting consumers	Covers use under typical h		
Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)	Consumer Measures	No specific risk management measure identified beyond those operational conditions stated.	
		osure for: PC1: Glues DIY-use (carpet glue,	
Product characteristics	Concentration of the Substance in	Covers concentrations up to 30%	
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	Mixture/Article		
	Physical Form (at time of use)	liquid	
	Vapour pressure	> 10 Pa	
Amount used	Amount used per event	6,39 kg	
	Frequency of use	1 days/year	
Frequency and duration of use	Frequency of use	1 Times per day	
	Exposure duration per event	360 min	
Human factors not influenced by risk management	Exposed skin areas	Covers skin contact area up to 110 cm <sup>2</sup>	
Other given operational	Room size	20 m3	
conditions affecting consumers exposure	Covers use under typical h	ousehold ventilation.	
Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)	Consumer Measures	No specific risk management measure identified beyond those operational conditions stated.	
	ntrolling consumer expo	osure for: PC1: Glue from spray	
	Concentration of the Substance in Mixture/Article	Covers concentrations up to 30%	
Product characteristics	Physical Form (at time of use)	liquid	
	Vapour pressure	> 10 Pa	
Amount used	Amount used per event	85,05 g	
	Frequency of use	6 days/year	
Frequency and duration of use	Frequency of use	1 Times per day	
	Exposure duration per event	240 min	
Human factors not influenced by	Exposed skin areas	Covers skin contact area up to 35,73 cm <sup>2</sup>	
risk management Other given operational	Room size	20 m3	
conditions affecting consumers	Covers use under typical h		
exposure Conditions and measures related		1	
to protection of consumer (e.g. behavioural advice, personal protection and hygiene)	Consumer Measures	No specific risk management measure identified beyond those operational conditions stated.	
2.5 Contributing scenario co	ntrolling consumer expo	osure for: PC1: Sealants	
Product characteristics	Concentration of the	Covers concentrations up to 30%	
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	Substance in Mixture/Article		
	Physical Form (at time of use)	liquid	
	Vapour pressure	> 10 Pa	
Amount used	Amount used per event	75 g	
	Frequency of use	365 days/year	
Francisco and duration of use	Frequency of use	1 Times per day	
Frequency and duration of use	Exposure duration per event	60 min	
Human factors not influenced by risk management	Exposed skin areas	Covers skin contact area up to 35,73 cm <sup>2</sup>	
Other given operational	Room size	20 m3	
conditions affecting consumers exposure	Covers use under typical h	ousehold ventilation.	
Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)	Consumer Measures No specific risk management measure in beyond those operational conditions star		
2.6 Contributing scenario co	ntrolling consumer expo	osure for: PC24: Liquids	
	Concentration of the Substance in Mixture/Article	Covers concentrations up to 100%	
Product characteristics	Physical Form (at time of use)	liquid	
	Vapour pressure	> 10 Pa	
		r	
Amount used	Amount used per event	2,2 kg	
	Frequency of use	4 days/year	
Frequency and duration of use	Frequency of use	1 Times per day	
	Exposure duration per event	10,2 min	
Human factors not influenced by risk management	Exposed skin areas	Covers skin contact area up to 468 cm <sup>2</sup>	
Other given operational	Room size	34 m3	
conditions affecting consumers exposure			
Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)	Consumer Measures	No specific risk management measure identified beyond those operational conditions stated.	
2.7 Contributing scenario co	ntrolling consumer expo	osure for: PC24: Pastes	

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	Concentration of the Substance in Mixture/Article	Covers concentrations up to 20%	
Product characteristics	Physical Form (at time of use)	liquid	
	Vapour pressure	> 10 Pa	
Amount used	Amount used per event	34 g	
	Frequency of use	10 days/year	
Frequency and duration of use	Frequency of use	1 Times per day	
	Exposure duration per event	360 min	
Human factors not influenced by	Exposed skin areas	Covers skin contact area up to 468 cm <sup>2</sup>	
risk management			
Other given operational conditions affecting consumers	Room size	20 m3	
exposure	Covers use under typical h	ousehold ventilation.	
Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)	Consumer Measures No specific risk management measure identi beyond those operational conditions stated.		
2.8 Contributing scenario co	ntrolling consumer expo	osure for: PC24: Sprays	
-	Concentration of the Substance in Mixture/Article	Covers concentrations up to 50%	
Product characteristics	Physical Form (at time of use)	liquid	
	Vapour pressure	> 10 Pa	
		T	
Amount used	Amount used per event	73 g	
	Frequency of use	6 days/year	
Frequency and duration of use	Frequency of use	1 Times per day	
	Exposure duration per event	10,2 min	
Human factors not influenced by risk management	Exposed skin areas	Covers skin contact area up to 428,75 cm <sup>2</sup>	
Other given operational	Room size	20 m3	
conditions affecting consumers exposure	rs Covers use under typical household ventilation.		
Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)	Consumer Measures	No specific risk management measure identified beyond those operational conditions stated.	

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# 2.9 Contributing scenario controlling consumer exposure for: PC31: Polishes, wax / cream (floor, furniture, shoes)

	Concentration of the Substance in Mixture/Article	Covers concentrations up to 50%		
Product characteristics	Physical Form (at time of use)	liquid		
	Vapour pressure	> 10 Pa		
Amount used	Amount used per event	142 g		
	Frequency of use	29 days/year		
Frequency and duration of use	Frequency of use	1 Times per day		
rrequency and duration of use	Exposure duration per event	73,8 min		
Human factors not influenced by risk management	Exposed skin areas         Covers skin contact area up to 430 cm <sup>2</sup>			
Other given operational	Room size	20 m3		
conditions affecting consumers exposure	Covers use under typical h	pical household ventilation.		
Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)	No specific risk management measure identif           Consumer Measures         beyond those operational conditions stated.			

# 2.10 Contributing scenario controlling consumer exposure for: PC31: Polishes, spray (furniture, shoes)

511003)			
	Concentration of the Substance in Mixture/Article	Covers concentrations up to 50%	
Product characteristics	Physical Form (at time of use)	liquid	
	Vapour pressure	> 10 Pa	
Amount used	Amount used per event	35 g	
	Frequency of use	8 days/year	
Frequency and duration of use	Frequency of use	1 Times per day	
	Exposure duration per event	19,8 min	
Human factors not influenced by risk management	Exposed skin areas Covers skin contact area up to 430 cm <sup>2</sup>		
Other given operational	Deem eize	202	
conditions affecting consumers	Room size 20 m3		
exposure	Covers use under typical household ventilation.		
Conditions and measures related	d Consumer Measures No specific risk management measure identified		
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to protection of consumer (e.g. behavioural advice, personal protection and hygiene)

beyond those operational conditions stated.

#### 3. Exposure estimation and reference to its source

#### Environment

The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model.

Contributing Scenario	Specific conditions	Compartment	Value	Level of Exposure	RCR
ERC8a, ERC8d			Msafe	100 kg/day	
ERC9a, ERC9b			Msafe	88 kg/day	
		1 4 41	<b>6</b> (1)		

ESVOC spERC 8.6e.v1 has been used to evaluate the exposure for the environment. ESVOC spERC 9.6d.v1 has been used to evaluate the exposure for the environment.

#### Consumers

The ECETOC TRA tool has been used to estimate consumer exposures unless otherwise indicated.

# 4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

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.

Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-for-industries-libraries.html).

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

For further information on the assessment method, see: http://www.ecetoc.org/tra

Only properly trained persons shall make use of scaling methods while checking whether the OC and RMM are within the boundaries set by the ES



## Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics

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#### 1. Short title of Exposure Scenario 20: Use as Functional Fluids

Main User Groups	SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites
Process categories	PROC1: Use in closed process, no likelihood of exposure PROC2: Use in closed, continuous process with occasional controlled exposure PROC3: Use in closed batch process (synthesis or formulation) PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
Environmental Release Categories	ERC7: Industrial use of substances in closed systems

#### 2.1 Contributing scenario controlling environmental exposure for: ERC7

2.1 Contributing Section of			
	Maximum daily site tonnage (kg/day):	250 kg/day	
Amount used	Regional use tonnage (tons/year):	5 ton(s)/year	
	Fraction of EU tonnage used in region:	0,1	
	Fraction of Regional tonnage used locally:	1	
	Annual site tonnage (tons/year):	5 ton(s)/year	
Frequency and duration of use	Continuous exposure	20 days/year	
Environment factors not influenced by risk management	Dilution Factor (River)	10	
	Dilution Factor (Coastal Areas)	100	
	Emission or Release Factor: Air	1,0 .10-2	
Other given operational conditions affecting	Emission or Release Factor: Water	3,0 .10-6	
environmental exposure	Emission or Release Factor: Soil	1,0 .10-3	
	initial release prior to RMM		
Technical conditions and measures at process level	Air	Treat air emission to provide a typical removal efficiency of (%): (Efficiency: 0 %)	
(source) to prevent release Technical onsite conditions and	Water	No wastewater treatment required.	
measures to reduce or limit	Water	If discharging to domestic sewage treatment plant,	
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discharges, air emissions and		no anaita waatawatar traatmont required	
eleases to soil		no onsite wastewater treatment required.	
Drganizational measures to prevent/limit release from the site	Water	Prevent discharge of undissolved substance to or recover from onsite wastewater.	
	Water Risk from environmental exposure is driven freshwater.		
	Common practices vary ac estimates used.	ross sites thus conservative process release	
	Type of Sewage Treatment Plant	Domestic sewage treatment plant	
	Flow rate of sewage treatment plant effluent	2.000 m3/d	
Conditions and measures related	Degradation efficiency	96,2 %	
o sewage treatment plant	Percentage removed from waste water	96,2 %	
	Sludge Treatment	Do not apply industrial sludge to natural soils., Sludge should be incinerated, contained or reclaimed.	
Conditions and measures related o external treatment of waste for lisposal	Waste treatment	External treatment and disposal of waste should comply with applicable local and/or national regulations.	
Conditions and measures related o external recovery of waste	Recovery Methods External recovery and recycling of waste comply with applicable local and/or nation regulations.		
2.2 Contributing scenario co PROC8a, PROC8b, PROC	ntrolling worker exposu 9	re for: PROC1, PROC2, PROC3, PROC4,	
	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 % (unless stated differently).	
Product characteristics	Physical Form (at time of use)	liquid	
	N/	0,5 - 10 kPa	
	Vapour pressure	0,5 - 10 KPa	
requency and duration of use	Vapour pressure Frequency of use	8 hours/day	
Frequency and duration of use Other operational conditions Iffecting workers exposure	Frequency of use		

#### 3. Exposure estimation and reference to its source

Environment



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Contributing Scenario	Specific conditions	Compartment	Value	Level of Exposure	RCR
			Msafe	2700000 kg/day	
ESV/OC an EBC 7 12a v1 has been used to evaluate the experimentation of the environment					

ESVOC spERC 7.13a.v1 has been used to evaluate the exposure for the environment.

Workers

The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

# 4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

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.

Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-forindustries-libraries.html).

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

For further information on the assessment method, see: http://www.ecetoc.org/tra

Only properly trained persons shall make use of scaling methods while checking whether the OC and RMM are within the boundaries set by the ES

#### Additional good practice advice beyond the REACH Chemical Safety Assessment

Assumes a good basic standard of occupational hygiene is implemented.



# Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics

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#### 1. Short title of Exposure Scenario 21: Use as Functional Fluids

Main User Groups	SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)		
Process categories	<ul> <li>PROC1: Use in closed process, no likelihood of exposure</li> <li>PROC2: Use in closed, continuous process with occasional controlled exposure</li> <li>PROC3: Use in closed batch process (synthesis or formulation)</li> <li>PROC8a: Transfer of substance or preparation (charging/discharging) from/to</li> <li>vessels/large containers at non-dedicated facilities</li> <li>PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)</li> <li>PROC20: Heat and pressure transfer fluids in dispersive, professional use but closed systems</li> </ul>		
Environmental Release Categories	ERC9a: Wide dispersive indoor use of substances in closed systems ERC9b: Wide dispersive outdoor use of substances in closed systems		

2.1 Contributing scenario controlling environmental exposure for: ERC9a, ERC9b

2.1 Contributing scenario controlling environmental exposure for: ERC9a, ERC9b				
	Maximum daily site tonnage (kg/day):	0,0055 kg/day		
Amount used	Regional use tonnage (tons/year):	4 ton(s)/year		
	Fraction of EU tonnage used in region:	0,1		
	Fraction of Regional tonnage used locally:	0,0005		
	Annual site tonnage 0,002 ton(s)/year (tons/year):			
Frequency and duration of use	Continuous exposure	365 days/year		
Environment factors not	Dilution Factor (River)	10		
Other given operational conditions affecting environmental exposure	Dilution Factor (Coastal Areas)	100		
	Emission or Release Factor: Air	5,0 .10-2		
	Emission or Release Factor: Water	2,5 .10-2		
	Emission or Release Factor: Soil 2,5 .10-2			
	initial release prior to RMM			
Technical conditions and measures at process level (source) to prevent release Technical onsite conditions and measures to reduce or limit discharges, air emissions and	Air	Treat air emission to provide a typical removal efficiency of (%): (Efficiency: 0 %)		
	Water	No wastewater treatment required.		
	Water	If discharging to domestic sewage treatment plant, no onsite wastewater treatment required.		
releases to soil				
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ESVOC spERC 9.13b.v1 has be	en used t	o evaluate the expos	sure for the environr	nent.		
			Msafe	77 kg/day		
Environment Contributing Scenario Specific cor	buting Specific conditions		Value	Level of Exposure	RCR	
3. Exposure estimation an	d referen	nce to its source				
from source towards the worker						
Technical conditions and measures to control dispersion	Storag	e	Store substance within a closed system.(PROC1, PROC2)			
Other operational conditions affecting workers exposure	es use at not more t htly.	han 20°C above an	bient temperature	e, unless stated		
Frequency and duration of use		ency of use	8 hours/day			
	/	r pressure	0,5 - 10 kPa			
Product characteristics		al Form (at time of	liquid			
	Substa	ntration of the ince in e/Article	Covers percentage substance in the product up to 100 % (unless stated differently).			
2.2 Contributing scenario c PROC9, PROC20	ontrollin	g worker exposu		ROC2, PROC3,	PROC8a,	
Conditions and measures related to external recovery of waste	Recove	ery Methods	External recovery and recycling of waste should comply with applicable local and/or national regulations.			
Conditions and measures related to external treatment of waste fo disposal		treatment	External treatment and disposal of waste should comply with applicable local and/or national regulations.			
Conditions and measures related to sewage treatment plant	Sludge	Treatment	Do not apply industrial sludge to natural soils., Sludge should be incinerated, contained or reclaimed.			
		tage removed aste water	96,2 %			
		dation efficiency	96,2 %			
		ate of sewage ent plant effluent	2.000 m3/d			
	Type o Treatm	f Sewage ent Plant	Domestic sewage	treatment plant		
		Common practices vary across sites thus conservative process release estimates used.				
Organizational measures to prevent/limit release from the site	Water		Risk from environ freshwater.	mental exposure i	sullven by	



## Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics

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#### Workers

The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

# 4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

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.

Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-for-industries-libraries.html).

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

For further information on the assessment method, see: http://www.ecetoc.org/tra

Only properly trained persons shall make use of scaling methods while checking whether the OC and RMM are within the boundaries set by the ES

Additional good practice advice beyond the REACH Chemical Safety Assessment

Assumes a good basic standard of occupational hygiene is implemented.



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lain User Groups	SU 21: Consumer uses: Private households (= general public = consumers)		
Chemical product category	PC16: Heat transfer fluids PC17: Hydraulic fluids		
Environmental Release Categories	ERC9a: Wide dispersive indoor use of substances in closed systems ERC9b: Wide dispersive outdoor use of substances in closed systems		
2.1 Contributing scenario co	ntrolling environmental	exposure for: ERC9a, ERC9b	
	Maximum daily site tonnage (kg/day):	0,0027 kg/day	
Amount used	Regional use tonnage (tons/year):	2 ton(s)/year	
	Fraction of EU tonnage used in region:	0,1	
	Fraction of Regional tonnage used locally:	0,0005	
	Annual site tonnage (tons/year):	0,001 ton(s)/year	
Frequency and duration of use	Continuous exposure	365 days/year	
Environment factors not	Dilution Factor (River)	10	
Environment factors not influenced by risk management Other given operational conditions affecting environmental exposure	Dilution Factor (Coastal Areas)	100	
	Emission or Release Factor: Air	5,0 .10-2	
	Emission or Release Factor: Water	2,5 .10-2	
	Emission or Release Factor: Soil	2,5 .10-2	
	initial release prior to RMN	Λ	
Technical conditions and measures at process level	Water	Risk from environmental exposure is driven by freshwater.	
(source) to prevent release Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil Organizational measures to prevent/limit release from the site			
Conditions and measures related to sewage treatment plant	Type of Sewage Treatment Plant	Domestic sewage treatment plant	
	Flow rate of sewage treatment plant effluent	2.000 m3/d	
	Percentage removed	96,2 %	
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	from waste water	
Conditions and measures related to external treatment of waste for disposal	Waste treatment	External treatment and disposal of waste should comply with applicable local and/or national regulations.
Conditions and measures related to external recovery of waste	Recovery Methods	External recovery and recycling of waste should comply with applicable local and/or national regulations.
2.2 Contributing scenario co	ntrolling consumer expo	osure for: PC16, PC17
	Concentration of the Substance in Mixture/Article	Covers concentrations up to 100%
Product characteristics	Physical Form (at time of use)	liquid
	Vapour pressure	> 10 Pa
Amount used	Amount used per event	2,2 kg
	Frequency of use	4 days/year
Frequency and duration of use	Frequency of use	1 Times per day
	Exposure duration per event	10,2 min
Human factors not influenced by risk management	Exposed skin areas	Covers skin contact area up to 468 cm <sup>2</sup>
Other given operational	Room size	34 m3
conditions affecting consumers exposure	Covers use in a one car ga	irage (34 m3) under typical ventilation.
Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)	Consumer Measures	No specific risk management measure identified beyond those operational conditions stated.

#### 3. Exposure estimation and reference to its source

#### Environment

Contributing Scenario	Specific conditions	Compartment	Value	Level of Exposure	RCR	
			Msafe	40 kg/day		
ESVOC spERC 9.13c.v1 has been used to evaluate the exposure for the environment.						

#### Consumers

The ECETOC TRA tool has been used to estimate consumer exposures unless otherwise indicated.

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

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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.

Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-for-industries-libraries.html).

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

For further information on the assessment method, see: http://www.ecetoc.org/tra

Only properly trained persons shall make use of scaling methods while checking whether the OC and RMM are within the boundaries set by the ES



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Main User Groups	SU 3: Industrial uses: Uses of substances as such or in preparations at industria sites		
Process categories	PROC10: Roller application or brushing PROC15: Use as laboratory reagent		
Environmental Release Categories	ERC2: Formulation of preparations ERC4: Industrial use of processing aids in processes and products, not becomin part of articles		
2.1 Contributing scenario co	ntrolling environmental	exposure for: ERC2, ERC4	
	Maximum daily site tonnage (kg/day):	30 kg/day	
	Regional use tonnage (tons/year):	0,6 ton(s)/year	
Amount used	Fraction of EU tonnage used in region:	0,1	
	Fraction of Regional tonnage used locally:	1	
	Annual site tonnage (tons/year):	0,6 ton(s)/year	
Frequency and duration of use	Continuous exposure	20 days/year	
	Dilution Factor (River)	10	
Environment factors not influenced by risk management	Dilution Factor (Coastal Areas)	100	
	Emission or Release Factor: Air	2,5 .10-2	
Other given operational conditions affecting	Emission or Release Factor: Water	2,0 .10-2	
environmental exposure	Emission or Release Factor: Soil	1,0 .10-4	
	initial release prior to RMM	Λ	
	Air	Treat air emission to provide a typical removal efficiency of (%): (Efficiency: 0 %)	
Technical conditions and measures at process level	Water	No wastewater treatment required.	
(source) to prevent release Technical onsite conditions and	Water	If discharging to domestic sewage treatment plant, no onsite wastewater treatment required.	
measures to reduce or limit discharges, air emissions and	Water	Prevent discharge of undissolved substance to or recover from onsite wastewater.	
releases to soil Organizational measures to prevent/limit release from the site	Sediment	Risk from environmental exposure is driven by freshwater sediment.	
	Common practices vary ac estimates used.	cross sites thus conservative process release	
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affecting workers exposure       differently.         3. Exposure estimation and reference to its source				
Other operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated			
Frequency and duration of use	Frequency of use	8 hours/day		
	Vapour pressure	0,5 - 10 kPa		
Product characteristics	Physical Form (at time of use)	liquid		
Deschool also as a trainities	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 % (unless stated differently).		
2.2 Contributing scenario co	ntrolling worker exposu	re for: PROC10, PROC15		
Conditions and measures related to external recovery of waste	Recovery Methods	External recovery and recycling of waste should comply with applicable local and/or national regulations.		
Conditions and measures related to external treatment of waste for disposal	Waste treatment	External treatment and disposal of waste should comply with applicable local and/or national regulations.		
	Sludge Treatment	Do not apply industrial sludge to natural soils., Sludge should be incinerated, contained or reclaimed.		
to sewage treatment plant	Percentage removed from waste water	96,2 %		
Conditions and measures related	Degradation efficiency	96,2 %		
	Flow rate of sewage treatment plant effluent	2.000 m3/d		
	Type of Sewage Treatment Plant	Domestic sewage treatment plant		

#### Environment

Contributing Scenario	Specific conditions	Compartment	Value	Level of Exposure	RCR
			Msafe	1300 kg/day	

#### Workers

The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

# 4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may

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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.

Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-for-industries-libraries.html).

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

For further information on the assessment method, see: http://www.ecetoc.org/tra

Only properly trained persons shall make use of scaling methods while checking whether the OC and RMM are within the boundaries set by the ES

Additional good practice advice beyond the REACH Chemical Safety Assessment

Assumes a good basic standard of occupational hygiene is implemented.



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#### 1. Short title of Exposure Scenario 24: Use in laboratories

Main User Groups	SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Process categories	PROC10: Roller application or brushing PROC15: Use as laboratory reagent
Environmental Release Categories	ERC8a: Wide dispersive indoor use of processing aids in open systems

2.1 Contributing scenario controlling environmental exposure for: ERC8a

-		
	Maximum daily site tonnage (kg/day):	0,0011 kg/day
Amount used	Regional use tonnage (tons/year):	0,8 ton(s)/year
	Fraction of EU tonnage used in region:	0,1
	Fraction of Regional tonnage used locally:	0,0005
	Annual site tonnage (tons/year):	0,0004 ton(s)/year
Frequency and duration of use	Continuous exposure	365 days/year
Environment factors not	Dilution Factor (River)	10
influenced by risk management	Dilution Factor (Coastal Areas)	100
	Emission or Release Factor: Air	5,0 .10-1
Other given operational conditions affecting	Emission or Release Factor: Water	5,0 .10-1
environmental exposure	Emission or Release Factor: Soil	0
	initial release prior to RMM	
Technical conditions and	Air	Treat air emission to provide a typical removal efficiency of (%): (Efficiency: 0 %)
measures at process level	Water	No wastewater treatment required.
(source) to prevent release Technical onsite conditions and measures to reduce or limit	Water	If discharging to domestic sewage treatment plant, no onsite wastewater treatment required.
discharges, air emissions and releases to soil	Water	Risk from environmental exposure is driven by freshwater.
Organizational measures to prevent/limit release from the site	Common practices vary across sites thus conservative process release estimates used.	
Conditions and measures related to sewage treatment plant	Type of Sewage Treatment Plant	Domestic sewage treatment plant
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Flow rate of sewage treatment plant effluent	2.000 m3/d	
Degradation efficiency	96,2 %	
Percentage removed from waste water	96,2 %	
Sludge Treatment	Do not apply industrial sludge to natural soils., Sludge should be incinerated, contained or reclaimed.	
Waste treatment	External treatment and disposal of waste should comply with applicable local and/or national regulations.	
Recovery Methods	External recovery and recycling of waste should comply with applicable local and/or national regulations.	
ntrolling worker exposu	re for: PROC10, PROC15	
Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 % (unless stated differently).	
Physical Form (at time of use)	liquid	
Vapour pressure	0,5 - 10 kPa	
Frequency of use	8 hours/day	
Assumes use at not more than 20°C above ambient temperature, unless stated differently.		
	treatment plant effluent Degradation efficiency Percentage removed from waste water Sludge Treatment Waste treatment Recovery Methods ntrolling worker exposu Concentration of the Substance in Mixture/Article Physical Form (at time of use) Vapour pressure Frequency of use Assumes use at not more t	

3. Exposure estimation and reference to its source

Environment

Contributing Scenario	Specific conditions	Compartment	Value	Level of Exposure	RCR
			Msafe	13 kg/day	
ESVOC spERC	8.17.v1 has been used to	evaluate the exposur	e for the environm	ient.	•
Workers The ECETOC TI	RA tool has been used to	estimate workplace e	xposures unless c	therwise indicated	1.
4. Guidance Exposure	to Downstream User t Scenario	o evaluate whethe	er he works insi	de the boundar	ies set by the
Exposure S Guidance is ba be necessary t		g conditions which m	ay not be applicat	le to all sites; thus	s, scaling may
Exposure s Guidance is ba be necessary t Required remo	Scenario used on assumed operatin o define appropriate site-s	g conditions which m	ay not be applicat	le to all sites; thus	s, scaling may



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Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-for-industries-libraries.html).

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

For further information on the assessment method, see: http://www.ecetoc.org/tra

Only properly trained persons shall make use of scaling methods while checking whether the OC and RMM are within the boundaries set by the ES

Additional good practice advice beyond the REACH Chemical Safety Assessment

Assumes a good basic standard of occupational hygiene is implemented.



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Main User Groups	SU 3: Industrial uses: Use sites	es of substances as such or in preparations at industrial
Process categories	PROC2: Use in closed, cc PROC3: Use in closed ba PROC4: Use in batch and exposure arises PROC5: Mixing or blendir and articles (multistage an PROC7: Industrial sprayir PROC8a: Transfer of sub vessels/large containers a PROC8b: Transfer of sub vessels/large containers a PROC9: Transfer of sub filling line, including weigh PROC10: Roller applicatio PROC13: Treatment of ar	ng stance or preparation (charging/discharging) from/to t non-dedicated facilities stance or preparation (charging/discharging) from/to t dedicated facilities tance or preparation into small containers (dedicated ing)
Environmental Release Categories		ocessing aids in processes and products, not becoming
2.1 Contributing scenario co	ontrolling environmenta	l exposure for: ERC4
	Maximum daily site tonnage (kg/day):	740 kg/day
	Regional use tonnage (tons/year):	15 ton(s)/year
Amount used	Fraction of EU tonnage used in region:	0,1
	Fraction of Regional tonnage used locally:	1
	Annual site tonnage (tons/year):	15 ton(s)/year
Frequency and duration of use	Continuous exposure	20 days/year
	Dilution Factor (River)	10
Environment factors not influenced by risk management	Dilution Factor (Coastal Areas)	100
	Emission or Release Factor: Air	2,0 .10-2
Other given operational conditions affecting	Emission or Release Factor: Water	3,0 .10-6
environmental exposure	Emission or Release Factor: Soil	0
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## Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics

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	initial release prior to RMM	
	Air	Treat air emission to provide a typical removal efficiency of (%): (Efficiency: 70 %)
Technical conditions and measures at process level (source) to prevent release Technical onsite conditions and measures to reduce or limit discharges, air emissions and	Water	No wastewater treatment required.
	Water	If discharging to domestic sewage treatment plant, no onsite wastewater treatment required.
	Water	Prevent discharge of undissolved substance to or recover from onsite wastewater.
releases to soil Organizational measures to	Sediment	Risk from environmental exposure is driven by freshwater sediment.
prevent/limit release from the site	Common practices vary ac estimates used.	ross sites thus conservative process release
	Type of Sewage Treatment Plant	Domestic sewage treatment plant
	Flow rate of sewage treatment plant effluent	2.000 m3/d
Conditions and measures related to sewage treatment plant	Degradation efficiency	96,2 %
	Percentage removed from waste water	96,2 %
	Sludge Treatment	Do not apply industrial sludge to natural soils., Sludge should be incinerated, contained or reclaimed.
Conditions and measures related to external treatment of waste for disposal	Waste treatment	External treatment and disposal of waste should comply with applicable local and/or national regulations.
Conditions and measures related to external recovery of waste	Recovery Methods	External recovery and recycling of waste should comply with applicable local and/or national regulations.
2.2 Contributing scenario co PROC5, PROC7, PROC8a		re for: PROC1, PROC2, PROC3, PROC4, C10, PROC13, PROC17
Des dust also and is if	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 % (unless stated differently).
Product characteristics	Physical Form (at time of use)	liquid
	Vapour pressure	0,5 - 10 kPa
	_ /	8 hours/day
Frequency and duration of use	Frequency of use	
Other operational conditions affecting workers exposure		
Frequency and duration of use Other operational conditions affecting workers exposure Technical conditions and measures to control dispersion from source towards the worker	Assumes use at not more t	han 20°C above ambient temperature, unless stated Handle substance within a closed system.(PROC1)



### Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics

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General exposures (closed systems)	Handle substance within a closed system.(PROC2)
General exposures (closed systems)	Handle substance within a closed system.(PROC3)
Bulk transfers	Clear transfer lines prior to de-coupling.(PROC8b)
Treatment by dipping and pouring	Allow time for product to drain from workpiece.(PROC13)
Storage	Store substance within a closed system. Transfer via enclosed lines.(PROC1, PROC2)

#### 3. Exposure estimation and reference to its source

#### Environment

Contributing Scenario	Specific conditions	Compartment	Value	Level of Exposure	RCR
			Msafe	8500000 kg/day	

ESVOC spERC 4.7a.v1 has been used to evaluate the exposure for the environment.

#### Workers

The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

# 4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

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.

Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-forindustries-libraries.html).

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

For further information on the assessment method, see: http://www.ecetoc.org/tra

Only properly trained persons shall make use of scaling methods while checking whether the OC and RMM are within the boundaries set by the ES

#### Additional good practice advice beyond the REACH Chemical Safety Assessment

Assumes a good basic standard of occupational hygiene is implemented.

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### Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics

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#### 1. Short title of Exposure Scenario 26: Use in metal working fluids / rolling oils

Main User Groups	SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Process categories	<ul> <li>PROC1: Use in closed process, no likelihood of exposure</li> <li>PROC2: Use in closed, continuous process with occasional controlled exposure</li> <li>PROC3: Use in closed batch process (synthesis or formulation)</li> <li>PROC8a: Transfer of substance or preparation (charging/discharging) from/to</li> <li>vessels/large containers at non-dedicated facilities</li> <li>PROC8b: Transfer of substance or preparation (charging/discharging) from/to</li> <li>vessels/large containers at dedicated facilities</li> <li>PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)</li> <li>PROC10: Roller application or brushing</li> <li>PROC11: Non industrial spraying</li> <li>PROC13: Treatment of articles by dipping and pouring</li> <li>PROC17: Lubrication at high energy conditions and in partly open process</li> </ul>
Environmental Release Categories	ERC8a: Wide dispersive indoor use of processing aids in open systems ERC8d: Wide dispersive outdoor use of processing aids in open systems

#### 2.1 Contributing scenario controlling environmental exposure for: ERC8a, ERC8d

J	U	•	
	Maximum daily site tonnage (kg/day):	0,01 kg/day	
	Regional use tonnage (tons/year):	7,4 ton(s)/year	
Amount used	Fraction of EU tonnage used in region:	0,1	
	Fraction of Regional tonnage used locally:	0,0005	
	Annual site tonnage (tons/year):	0,0037 ton(s)/year	
Frequency and duration of use	Continuous exposure	365 days/year	
	Dilution Factor (River)	10	
Environment factors not influenced by risk management	Dilution Factor (Coastal Areas)	100	
	Emission or Release Factor: Air	4,0 .10-1	
Other given operational conditions affecting	Emission or Release Factor: Water	5,0 .10-2	
environmental exposure	Emission or Release Factor: Soil	5,0 .10-2	
	initial release prior to RMM		
Technical conditions and measures at process level (source) to prevent release	Air         Treat air emission to provide a typical removal efficiency of (%): (Efficiency: 0 %)		
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Technical onsite conditions and	Water	No wastewater treatment required.
measures to reduce or limit discharges, air emissions and	Water	If discharging to domestic sewage treatment plant, no onsite wastewater treatment required.
releases to soil Organizational measures to prevent/limit release from the site	Water	Risk from environmental exposure is driven by freshwater.
	Common practices vary ac estimates used.	ross sites thus conservative process release
	Type of Sewage Treatment Plant	Domestic sewage treatment plant
	Flow rate of sewage treatment plant effluent	2.000 m3/d
Conditions and measures related	Degradation efficiency	96,2 %
to sewage treatment plant	Percentage removed from waste water	96,2 %
	Sludge Treatment	Do not apply industrial sludge to natural soils., Sludge should be incinerated, contained or reclaimed.
Conditions and measures related to external treatment of waste for disposal	Waste treatment	External treatment and disposal of waste should comply with applicable local and/or national regulations.
Conditions and measures related to external recovery of waste	Recovery Methods	External recovery and recycling of waste should comply with applicable local and/or national regulations.
2.2 Contributing scenario co PROC8b, PROC9, PROC1		re for: PROC1, PROC2, PROC3, PROC8a, ROC17
	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 % (unless stated differently).
Product characteristics	Physical Form (at time of use)	liquid
1	400)	
	Vapour pressure	0,5 - 10 kPa
Frequency and duration of use		
Frequency and duration of use Other operational conditions affecting workers exposure	Vapour pressure Frequency of use	0,5 - 10 kPa
Other operational conditions	Vapour pressure Frequency of use Assumes use at not more	0,5 - 10 kPa 8 hours/day
Other operational conditions affecting workers exposure Technical conditions and	Vapour pressure Frequency of use Assumes use at not more differently. General exposures	0,5 - 10 kPa 8 hours/day han 20°C above ambient temperature, unless stated
Other operational conditions affecting workers exposure	Vapour pressure Frequency of use Assumes use at not more differently. General exposures (closed systems) General exposures	0,5 - 10 kPa 8 hours/day than 20°C above ambient temperature, unless stated Handle substance within a closed system.(PROC1)
Other operational conditions affecting workers exposure Technical conditions and measures to control dispersion	Vapour pressure Frequency of use Assumes use at not more differently. General exposures (closed systems) General exposures (closed systems) General exposures	0,5 - 10 kPa 8 hours/day than 20°C above ambient temperature, unless stated Handle substance within a closed system.(PROC1) Handle substance within a closed system.(PROC2)



### Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics

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Storage

Store substance within a closed system.(PROC1, PROC2)

### 3. Exposure estimation and reference to its source

#### Environment

Contributing Scenario	Specific conditions         Compartment         Value         Level of Exposure         RCR					
			Msafe	120 kg/day		
ESVOC spERC	8 7c v1 has been used to	evaluate the exposure	e for the environm	ent		

#### Workers

The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

# 4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

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.

Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-for-industries-libraries.html).

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

For further information on the assessment method, see: http://www.ecetoc.org/tra

Only properly trained persons shall make use of scaling methods while checking whether the OC and RMM are within the boundaries set by the ES

#### Additional good practice advice beyond the REACH Chemical Safety Assessment

Assumes a good basic standard of occupational hygiene is implemented.



### Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics

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#### 1. Short title of Exposure Scenario 27: Use in road and construction applications

Main User Groups	SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Process categories	<ul> <li>PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities</li> <li>PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities</li> <li>PROC10: Roller application or brushing</li> <li>PROC11: Non industrial spraying</li> <li>PROC13: Treatment of articles by dipping and pouring</li> </ul>
Environmental Release Categories	ERC8d: Wide dispersive outdoor use of processing aids in open systems ERC8f: Wide dispersive outdoor use resulting in inclusion into or onto a matrix

#### 2.1 Contributing scenario controlling environmental exposure for: ERC8d, ERC8f

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releases to soil Organizational measures to prevent/limit release from the site	Water	Risk from environmental exposure is driven by freshwater.
measures to reduce or limit discharges, air emissions and	Water	If discharging to domestic sewage treatment plant, no onsite wastewater treatment required.
(source) to prevent release Technical onsite conditions and	Water	No wastewater treatment required.
Technical conditions and measures at process level	Air	Treat air emission to provide a typical removal efficiency of (%): (Efficiency: 0 %)
	initial release prior to RMM	
environmental exposure	Emission or Release Factor: Soil	1,0 .10-2
Other given operational conditions affecting	Emission or Release Factor: Water	4,0 .10-2
	Emission or Release Factor: Air	9,5 .10-1
influenced by risk management	Dilution Factor (Coastal Areas)	100
Environment factors not	Dilution Factor (River)	10
Frequency and duration of use	Continuous exposure	365 days/year
	Annual site tonnage (tons/year):	0,0038 ton(s)/year
	Fraction of Regional tonnage used locally:	0,0005
Amount used	Fraction of EU tonnage used in region:	0,1
	Regional use tonnage (tons/year):	7,5 ton(s)/year
	Maximum daily site tonnage (kg/day):	0,01 kg/day



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		on practices vary ac es used.	cross sites thus cons	servative process	release	
		<sup>-</sup> Sewage ent Plant	Domestic sewage	treatment plant		
		te of sewage ent plant effluent	2.000 m3/d			
Conditions and measures related	Degrad	ation efficiency	96,2 %			
to sewage treatment plant		tage removed aste water	96,2 %			
	Sludge	Treatment	Do not apply indu Sludge should be reclaimed.			
Conditions and measures related to external treatment of waste for disposal	Waste	treatment	External treatmen comply with applic regulations.			
Conditions and measures related to external recovery of waste	Recove	ery Methods	External recovery comply with applic regulations.			
2.2 Contributing scenario co PROC13	ntrolling	g worker exposu	ire for: PROC8a,	PROC8b, PROC	C10, PROC11,	
	Concentration of the Substance in Mixture/Article		Covers percentage substance in the product up to 100 % (unless stated differently).		e product up to	
Product characteristics	Physica use)	Physical Form (at time of use) liquid				
	Vapour	pressure	0,5 - 10 kPa			
Frequency and duration of use	Freque	ncy of use	8 hours/day			
Other operational conditions		Outdoor(PROC11) Assumes use at not more than 20°C above ambient temperature, unless stated				
affecting workers exposure	Assume differen		than 20°C above an	nbient temperature	e, unless stated	
Technical conditions and		g/ fogging by application	provide a good sta less than 3 to 5 air			
measures to control dispersion from source towards the worker			Ensure operation is undertaken outdoors.(PROC11)			
3. Exposure estimation and reference to its source						
Environment						
Contributing Scenario Specific cond	litions	Compartment	Value	Level of Exposure	RCR	
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SAFETY D	ATA SHEET acco	ording to Regu	lation (EC)	No. 1907/2	006
Hydrocark	oons, C7-C9, n-a	alkanes, isoal	kanes, cyc	lics	
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			Msafe	150 kg/day	
ESVOC spERC	8.15.v1 has been used to	evaluate the exposur			
Workers					
	RA tool has been used to to Downstream User t Scenario		•		
combination. Where other R risks are mana	oval efficiency for wastewa tisk Management Measure aged to at least equivalent prmation on the assessme	es/Operational Conditi levels.	ons are adopted,	then users should	

For further information on the assessmer Only properly trained persons shall make use of scaling methods while checking whether the OC and RMM are within the boundaries set by the ES

Additional good practice advice beyond the REACH Chemical Safety Assessment

Assumes a good basic standard of occupational hygiene is implemented.

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PC38:       Contributing scenario         Categories       ERC8a:       Wide dispersive indoor use of processing aids in open systems ERC8d:         2.1 Contributing scenario controlling environmental exposure for:       ERC8a:       ERC8a:         2.1 Contributing scenario controlling environmental exposure for:       ERC8a:       ERC8a:         2.1 Contributing scenario controlling environmental exposure for:       ERC8a:       ERC8a:         2.1 Contributing scenario       Control EU tonnage       0.00027 kg/day         Amount used       Maximum daily site tonnage used locally:       0.2 ton(s)/year         Fraction of EU tonnage used in region:       0.0005         Fraction of EU tonnage (tons/year):       0.00005         Annual site tonnage (tons/year):       0.00001 ton(s)/year         Environment factors not influenced by risk management       Dilution Factor (Coastal Areas)       100         Dilution Factor (Coastal Areas)       100       100         Emission or Release Factor: Air       2,5 .10-2       10.1         Emission or Release Factor: Soil       2,5 .10-2       10.2         Initial release prior to RMM       100       100       100         Emission or Release Factor: Soil       2,5 .10-2       10.2         Initial release prior to RMM       100       10.2       10.2	Main User Groups	SU 21: Consumer uses: Private households (= general public = consumers)				
Categories         ERC8d: Wide dispersive outdoor use of processing aids in open systems           2.1 Contributing scenario controlling environmental exposure for: ERC8a, ERC8d           Amount used         Maximum daily site tonnage (kg/day):         0,00027 kg/day           Amount used         Regional use tonnage (tons/year):         0,2 ton(s)/year           Fraction of EU tonnage used in region:         0,1           Fraction of Regional use don age used locally:         0,0005           Annual site tonnage (tons/year):         0,0001 ton(s)/year           Frequency and duration of use         Continuous exposure         365 days/year           Environment factors not influenced by risk management         Dilution Factor (River)         10           Dilution Factor (River)         10         100           Other given operational conditions affecting environmental exposure         Emission or Release Factor: Air         9,5.10-1           Emission or Release Factor: Water         2,5.10-2         10           Initial release prior to RMM         Type of Sewage Treatment Plant         Domestic sewage treatment plant           Conditions and measures related to sewage treatment plant         Flow rate of sewage Treatment Plant effluent         2.000 m3/d           Conditions and measures related to external treatment of waste for disposal         Waste treatment         External treatment and disposal of waste should	Chemical product category					
Amount used       tonnage (kg/day):       0,2 ton(s)/year         Amount used       Fraction of EU tonnage used in region:       0,1         Fraction of Regional tonnage used locally:       0,0005         Annual site tonnage (tons/year):       0,0001 ton(s)/year         Frequency and duration of use       Continuous exposure       365 days/year         Environment factors not influenced by risk management       Dilution Factor (River)       10         Dilution Factor (Coastal Areas)       100         Emission or Release Factor: Air       9,5 .10-1         Emission or Release Factor: Water       2,5 .10-2         Emission or Release Factor: Soil       2,5 .10-2         Initial release prior to RMM       Type of Sewage Treatment Plant       Domestic sewage treatment plant         Conditions and measures related to sewage treatment plant       Flow rate of sewage treatment plant effluent       2.000 m3/d         Percentage removed from waste water       96,2 %       Stermal treatment and disposal of waste should comply with applicable local and/or national to avernal treatment of waste for       External treatment and disposal of waste should comply with applicable local and/or national	Environmental Release Categories					
Amount used       tonnage (kg/day):       0,2 ton(s)/year         Amount used       Fraction of EU tonnage used in region:       0,1         Fraction of Regional tonnage used locally:       0,0005         Annual site tonnage (tons/year):       0,0001 ton(s)/year         Frequency and duration of use       Continuous exposure       365 days/year         Environment factors not influenced by risk management       Dilution Factor (River)       10         Dilution Factor (Coastal Areas)       100         Emission or Release Factor: Air       9,5 .10-1         Emission or Release Factor: Soil       2,5 .10-2         Emission or Release Factor: Soil       2,5 .10-2         Initial release prior to RMM       Type of Sewage Treatment Plant       Domestic sewage treatment plant         Conditions and measures related to sewage treatment plant       Flow rate of sewage treatment plant effluent       2.000 m3/d         Percentage removed from waste water       96,2 %       Stermal treatment and disposal of waste should comply with applicable local and/or national regulations.         Conditions and measures related to external treatment of waste for       Waste treatment       External treatment and disposal of waste should comply with applicable local and/or national         Conditions and measures related to external treatment of waste for       Recovery Methods       External recovery and recycling of waste should compl	2.1 Contributing scenario co	ntrolling environmental	exposure for: ERC8a, ERC8d			
Amount used       itons/year):       0.1         Fraction of EU tonnage used in region:       0,0005         Fraction of Regional tonnage used locally:       0,0001 ton(s)/year         Annual site tonnage (tons/year):       0,0001 ton(s)/year         Frequency and duration of use       Continuous exposure       365 days/year         Environment factors not influenced by risk management       Dilution Factor (River)       10         Dilution Factor (Coastal Areas)       100       100         Conditions affecting environmental exposure       Emission or Release Factor: Water       9,5.10-1         Emission or Release Factor: Soil       2,5.10-2       2,5.10-2         Conditions and measures related to sewage treatment plant       Type of Sewage treatment Plant effluent       Domestic sewage treatment plant         Percentage removed from waste water       96,2 %       96,2 %         Conditions and measures related to external treatment of waste for disposal       Waste treatment       External treatment and disposal of waste should comply with applicable local and/or national regulations.         Conditions and measures related to external treovery and recycling of waste should comply with applicable local and/or national       External treatment and disposal of waste should comply with applicable local and/or national			0,00027 kg/day			
Annobine used       used in region:         Fraction of Regional tonnage used locally:       0,0005         Annual site tonnage (tons/year):       0,0001 ton(s)/year         Frequency and duration of use       Continuous exposure       365 days/year         Environment factors not influenced by risk management       Dilution Factor (River)       10         Dilution Factor (Coastal Areas)       100         Environment factors not influenced by risk management       Emission or Release Factor: Air       9,5 .10-1         Other given operational conditions affecting environmental exposure       Emission or Release Factor: Water       2,5 .10-2         Emission or Release Factor: Soil       2,5 .10-2       Emission or Release Factor: Soil       2,5 .10-2         Conditions and measures related to sewage treatment plant       Type of Sewage Treatment Plant       Domestic sewage treatment plant         Percentage removed from waste water       96,2 %       2.000 m3/d         Conditions and measures related to external treatment of waste for disposal       Waste treatment       External treatment and disposal of waste should comply with applicable local and/or national regulations.         Conditions and measures related to external treatment of waste for disposal       Recovery Methods       External recovery and recycling of waste should comply with applicable local and/or national <td></td> <td>(tons/year):</td> <td>0,2 ton(s)/year</td>		(tons/year):	0,2 ton(s)/year			
tonnage used locally:         tonnage (tons/year):           Annual site tonnage (tons/year):         0,0001 ton(s)/year           Frequency and duration of use         Continuous exposure         365 days/year           Environment factors not influenced by risk management         Dilution Factor (River)         10           Dilution Factor (Coastal Areas)         100         100           Other given operational conditions affecting environmental exposure         Emission or Release Factor: Air         9,5 .10-1           Emission or Release Factor: Soil         10.2         2,5 .10-2           Emission or Release Factor: Soil         2,5 .10-2           Initial release prior to RMM         Type of Sewage Treatment Plant           Flow rate of sewage treatment plant         Flow rate of sewage treatment plant           Percentage removed from waste water         96,2 %           Conditions and measures related to external treatment of waste for disposal         Waste treatment           Conditions and measures related to external treatment of waste for disposal         Waste treatment           Conditions and measures related to external treatment of waste for disposal         Recovery Methods	Amount used	used in region:	0,1			
ItemItemFrequency and duration of useContinuous exposure365 days/yearEnvironment factors not influenced by risk managementDilution Factor (River)10Dilution Factor (Coastal Areas)100Other given operational conditions affecting environmental exposureEmission or Release Factor: Air9,5 .10-1Emission or Release Factor: Water2,5 .10-2Emission or Release Factor: Soil2,5 .10-2Initial release prior to RMMItilia release prior to RMMConditions and measures related to external treatment of waste for disposalFlow rate of sewage treatment2.000 m3/dConditions and measures related to external treatment of waste for disposalWaste treatmentExternal treatment and disposal of waste should comply with applicable local and/or national regulations.Conditions and measures related to external treatment of waste for disposalRecovery MethodsExternal recovery and recycling of waste should comply with applicable local and/or national regulations.		tonnage used locally:				
Environment factors not influenced by risk managementDilution Factor (River)10Dilution Factor (Coastal Areas)100Other given operational conditions affecting environmental exposureEmission or Release Factor: Air9,5 .10-1Emission or Release Factor: Water2,5 .10-2Emission or Release Factor: Soil2,5 .10-2Initial release prior to RMMType of Sewage Treatment PlantDomestic sewage treatment plantConditions and measures related to external treatment of waste for disposalFlow rate of sewage treatmentDomestic sewage treatment and disposal of waste should comply with applicable local and/or national regulations.Conditions and measures related to external recovery of wasteWaste treatmentExternal recovery and recycling of waste should comply with applicable local and/or national regulations.			0,0001 ton(s)/year			
Environment factors not influenced by risk management       Interfection (Coastal Areas)       100         Other given operational conditions affecting environmental exposure       Emission or Release Factor: Air       9,5.10-1         Emission or Release Factor: Water       2,5.10-2         Emission or Release Factor: Soil       2,5.10-2         Initial release prior to RMM       Type of Sewage Treatment Plant       Domestic sewage treatment plant         Conditions and measures related to sewage treatment plant       Flow rate of sewage treatment plant effluent       Domestic sewage treatment plant         Conditions and measures related to sewage       Waste treatment       96,2 %         Conditions and measures related to external treatment of waste for disposal       Waste treatment       External treatment and disposal of waste should comply with applicable local and/or national regulations.	Frequency and duration of use	Continuous exposure	365 days/year			
Influenced by risk managementDilution Factor (Coastal Areas)100Other given operational conditions affecting environmental exposureEmission or Release Factor: Air9,5 .10-1Emission or Release Factor: Water2,5 .10-2Emission or Release Factor: Soil2,5 .10-2Initial release prior to RMMType of Sewage Treatment PlantDomestic sewage treatment plantConditions and measures related to sewage treatment plantFlow rate of sewage treatment plant effluent2.000 m3/dConditions and measures related to external treatment of waste for disposalWaste treatmentBit PlantConditions and measures related to external treatment of waste for disposalWaste treatmentExternal treatment and disposal of waste should comply with applicable local and/or national regulations.Conditions and measures related to external treatment of wasteRecovery MethodsExternal recovery and recycling of waste should comply with applicable local and/or national regulations.	Environment factors not	Dilution Factor (River)	10			
Other given operational conditions affecting environmental exposureFactor: Air9,5.10-1Emission or Release Factor: Water2,5.10-2Emission or Release Factor: Soil2,5.10-2Initial release prior to RMM1Type of Sewage Treatment PlantDomestic sewage treatment plantFlow rate of sewage treatment plantFlow rate of sewage treatment PlantPercentage removed from waste water96,2 %Conditions and measures related to external treatment of waste for disposalWaste treatmentConditions and measures related to external treatment of waste for disposalRecovery MethodsExternal recovery of waste measuresRecovery Methods			100			
Conditions affecting environmental exposureFactor: Water2,5.10-2Emission or Release Factor: Soil2,5.10-2initial release prior to RMMConditions and measures related to sewage treatment plantType of Sewage Treatment PlantDomestic sewage treatment plantConditions and measures related to sewage treatment plantFlow rate of sewage treatment plant effluent2.000 m3/dPercentage removed from waste water96,2 %Conditions and measures related to external treatment of waste for disposalWaste treatmentExternal treatment and disposal of waste should comply with applicable local and/or national regulations.Conditions and measures related to external recovery of wasteRecovery MethodsExternal recovery and recycling of waste should comply with applicable local and/or national			9,5 .10-1			
Factor: Soil       2,5.10-2         initial release prior to RMM         Conditions and measures related to sewage treatment plant       Type of Sewage Treatment Plant       Domestic sewage treatment plant         Flow rate of sewage treatment plant       Flow rate of sewage treatment plant effluent       2.000 m3/d         Percentage removed from waste water       96,2 %         Conditions and measures related to external treatment of waste for disposal       Waste treatment       External treatment and disposal of waste should comply with applicable local and/or national regulations.         Conditions and measures related to external treatment of waste for disposal       Recovery Methods       External recovery and recycling of waste should comply with applicable local and/or national regulations.	conditions affecting		2,5 .10-2			
Conditions and measures related to sewage treatment plant       Type of Sewage Treatment Plant       Domestic sewage treatment plant         Conditions and measures related to sewage treatment plant       Flow rate of sewage treatment plant effluent       2.000 m3/d         Percentage removed from waste water       96,2 %         Conditions and measures related to external treatment of waste for disposal       Waste treatment       External treatment and disposal of waste should comply with applicable local and/or national regulations.         Conditions and measures related to external recovery of waste       Recovery Methods       External recovery and recycling of waste should comply with applicable local and/or national	environmental exposure		2,5 .10-2			
Conditions and measures related to sewage treatment plant       Flow rate of sewage treatment plant       2.000 m3/d         Percentage removed from waste water       96,2 %         Conditions and measures related to external treatment of waste for disposal       Waste treatment       External treatment and disposal of waste should comply with applicable local and/or national regulations.         Conditions and measures related to external treatment of waste for disposal       Recovery Methods       External recovery and recycling of waste should comply with applicable local and/or national regulations.		initial release prior to RMM				
to sewage treatment plant treatment plant effluent Percentage removed from waste water 96,2 % Conditions and measures related to external treatment of waste for disposal Conditions and measures related to external recovery of waste Recovery Methods Recovery Methods			Domestic sewage treatment plant			
from waste water     96,2 %       Conditions and measures related to external treatment of waste for disposal     Waste treatment     External treatment and disposal of waste should comply with applicable local and/or national regulations.       Conditions and measures related to external recovery of waste     Recovery Methods     External recovery and recycling of waste should comply with applicable local and/or national			2.000 m3/d			
to external treatment of waste for disposal Waste treatment Comply with applicable local and/or national regulations. External recovery and recycling of waste should comply with applicable local and/or national			96,2 %			
to external recovery of waste Recovery Methods comply with applicable local and/or national	to external treatment of waste for	Waste treatment	comply with applicable local and/or national			
regulations.	Conditions and measures related to external recovery of waste	Recovery Methods				
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### Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics

Version 1.2

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Consumer uses e.g. as a carrier in cosmetics/personal care products, perfumes and fragrances. Note: For cosmetic and personal care products, risk assessment only required for the environment under REACH as human health is covered by alternative legislation.

#### 3. Exposure estimation and reference to its source

#### Environment

Contributing Scenario	Specific conditions	Compartment	Value	Level of Exposure	RCR
			Msafe	4,2 kg/day	
ESVOC spERC 8.16.v1 has been used to evaluate the exposure for the environment.					

#### Consumers

No exposure assessment presented for human health.

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

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.

Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-for-industries-libraries.html).



### **COMPANY INFORMATION DISTRIBUTOR**

name	BRENNTAG N.V.	BRENNTAG Nederland B.V.
address	Nijverheidslaan 38 8540 Deerlijk	Donker Duyvisweg 44 3316 BM Dordrecht
country	Belgium	The Netherlands
phone number	+32 (0)56 77 69 44	+31 (0)78 65 44 944
fax number	+32 (0)56 77 57 11	+31 (0)78 65 44 919
website	www.brenntag.be	www.brenntag.nl
e-mail	info@brenntag.be	info@brenntag.nl
activities	Distribution and export of	chemicals and raw materials
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OHSAS18001	-	Yes
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other	-	AEO

