Safety Data Sheet
according to Regulation (EC) No. 1907/2006 (REACH), (EU) No.2020/878

Name :	SEPISOL 3356D		
Code:	191207		
Revision date :	17/05/2023	**Version :**	5.1.0
Print date :	17/05/2023	**Revision:**	5.0.2

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

1.1 Product identifier

SEPISOL 3356D (191207)

Hydrocarbons, C11-C12, isoalkanes, < 2% aromatics ; EC No. : 918-167-1 ; REACH No. : 01-2119472146-39

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

Relevant identified uses

Manufacture of substance
Distribution of substance
Formulation & (re)packing of substances and mixtures
Use in rubber production and processing
Use in polymer processing Industrial use - Professional use
Use in coatings Industrial use - Professional use- Consumer use
Use in cleaning agents Industrial use - Professional use- Consumer use
Use in binder and release agents
Use as lubricants Industrial use - Professional use- Consumer use
Use as Functional Fluids Industrial use - Professional use- Consumer use
Use in laboratories Industrial use - Professional use
Use in metal working fluids / rolling oils Industrial use - Professional use
Use in road and construction applications
Use as water treatment chemicals Industrial use - Professional use
Use in explosives
Other consumer uses

Uses 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 the safety data sheet

Supplier

Brenntag Spa

Street : Milanofiori Strada 6, Pal. A/13

Postal code/city : 20057 Assago (MI)

Telephone : +39 02 48333 0

Telefax : +39 02 48333 201

Information contact : infoSDS@brenntag.it

1.4 Emergency telephone number

24 h / 7 d

Centro Antiveleni di Milano 02 66101029 (CAV Azienda ospedaliera Niguarda Ca' Granda -Milano)
Centro Antiveleni di Pavia 0382 24444 (CAV Centro nazionale d'informazione tossicologica, IRCCS Fondazione Maugeri - Pavia)
Centro Antiveleni di Bergamo 800 883300 (CAV Azienda ospedaliera "Papa Giovanni XXIII"- Bergamo)
Centro Antiveleni di Verona 800 011858 (CAV , Azienda ospedaliera universitaria integrata (AOUI) - Verona)
Centro Antiveleni di Firenze 055 7947819 (CAV Azienda ospedaliera universitaria Careggi - Firenze)
Centro Antiveleni di Roma 06 3054343 (CAV Policlinico "Agostino Gemelli", Servizio di tossicologia clinica - Roma)
Centro Antiveleni di Roma 06 49978000 (CAV Policlinico "Umberto I", PRGM tossicologia d'urgenza - Roma)
Centro Antiveleni di Roma 06 68593726 (CAV , Ospedale pediatrico Bambino Gesù, DEA - Roma)
Centro Antiveleni di Napoli 081 5453333 (CAV Azienda ospedaliera "Antonio Cardarelli" - Napoli)
Centro Antiveleni di Foggia 800 183459 (CAV , Azienda ospedaliera universitaria riuniti - Foggia)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 [CLP]

Flam. Liq. 3 ; H226 - Flammable liquids : Category 3 ; Flammable liquid and vapour.
Asp. Tox. 1 ; H304 - Aspiration hazard : Category 1 ; May be fatal if swallowed and enters airways.

2.2 Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms

Flame (GHS02) · Health hazard (GHS08)

Signal word

Danger

Hazard statements

H226	Flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.

Precautionary statements

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+P310	IF SWALLOWED: Immediately call a POISON CENTER or a doctor
P331	Do NOT induce vomiting.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
P501	Dispose of contents/container to an approved waste disposal plant in accordance the local regulations.

Supplemental Hazard information (EU)

EUH066	Repeated exposure may cause skin dryness or cracking.

2.3 Other hazards

This product contains no substances assessed to be PBT or vPvB at levels of 0.1% or higher.
Endocrine disrupting properties
Environment:
The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.
Human Health:
The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.1 Substances

Substance name : Hydrocarbons, C11-C12, isoalkanes, < 2% aromatics

EC No. : 918-167-1

REACH No. : 01-2119472146-39

Purity : 100 % [mass]

SECTION 4: First aid measures

4.1 Description of first aid measures

When in doubt or if symptoms are observed, get medical advice.

Following inhalation

Remove casualty to fresh air and keep warm and at rest. If breathing is irregular or stopped, administer artificial respiration.

In case of skin contact

Remove contaminated, saturated clothing immediately. Flush away with water and rinse. In case of skin irritation, consult a physician. In case of skin reactions, consult a physician.

After eye contact

Wash with running water for several minutes holding the eyelids open. If symptoms persist, consult a physician.

After ingestion

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Consult a physician immediately.

4.2 Most important symptoms and effects, both acute and delayed

Headache, dizziness, drowsiness, nausea and other central nervous system effects. the contact Repeated and / or prolonged skin contact with low viscosity materials may defat the skin with possible development irritation and dermatitis. Small amounts' of liquid aspirated into the lungs during ingestion or vomiting may cause chemical pneumonitis or pulmonary edema.

4.3 Indication of any immediate medical attention and special treatment needed

None

SECTION 5: Firefighting measures

Handle and open container with care. The product is flammable, pay close attention. Vapours can form explosive mixtures with air. Use water spray jet to protect personnel and to cool endangered containers. Provide earthing of containers, equipment, pumps and ventilation facilities. Take precautionary measures against static discharges.

5.1 Extinguishing media

Suitable extinguishing media

Suitable extinguishing media CO_2, dry chemical, foam, water spray

Unsuitable extinguishing media

Strong water jet

5.2 Special hazards arising from the substance or mixture

Do not inhale explosion and combustion gases.

Hazardous combustion products

In case of fire may liberate carbon oxides.

5.3 Advice for firefighters

Special protective equipment for firefighters

Do not inhale explosion and combustion gases. In case of fire: Wear self-contained breathing apparatus.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Take the precautions customary when handling chemicals. Clear spills immediately. Wear protection gloves, clothes, glasses, boots and respiratory apparatus.

For non-emergency personnel

Remove persons to safety.

For emergency responders

Keep away from sources of heat (e.g. hot surfaces), sparks and open flames.

6.2 Environmental precautions

Do not allow to enter into surface water or drains. If the product contaminates lakes, rivers or sewages, inform appropriate authorities in accordance with local regulations.

6.3 Methods and material for containment and cleaning up

For containment

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents). Collect in closed and suitable containers for disposal.

For cleaning up

The contaminated area should be cleaned up immediately with: Water Retain contaminated washing water and dispose it.

6.4 Reference to other sections

SECTION 8: Exposure controls/personal protection SECTION 13: Disposal considerations

SECTION 7: Handling and storage

7.1 Precautions for safe handling

When using do not eat, drink, smoke, sniff.

Protective measures

Measures to prevent fire

Keep away from sources of ignition - No smoking.

Specific requirements or handling rules

Do not breathe gas/fumes/vapour/spray. See section 8.

Advices on general occupational hygiene

Normal precautions taken when handling chemicals should be observed.

7.2 Conditions for safe storage, including any incompatibilities

Only use containers specifically approved for the substance/product.

Requirements for storage rooms and vessels

Keep in a cool, well-ventilated place. Keep away from fire, sparks and ignition sources Use only in well-ventilated areas.

Hints on joint storage

Storage class : 10

Storage class (TRGS 510) : 3

Do not store together with

Do not store together with Food and feedingstuffs

Keep away from

Store at least 3 metres apart from: Chemicals/products that react together readily

7.3 Specific end use(s)

See section 1.2

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limit values

Hydrocarbons, C11-C12, isoalkanes, < 2% aromatics

Limit value type (country of origin) :	TLV/TWA (EC)
Limit value :	1200 mg/m^3 / 177 ppm
Version :	

8.2 Exposure controls

Appropriate engineering controls

If local exhaust ventilation is not possible or not sufficient, the entire working area must be ventilated by technical means. If technical exhaust or ventilation measures are not possible or insufficient, respiratory protection must be worn.

Personal protection equipment

During filling, metering, mixing and sampling must be used: Closed devices Devices with local exhaust In the immediate working surroundings there must be Emergency shower installed Make available sufficient washing facilities When using do not eat, drink, smoke, sniff.

Eye/face protection

Suitable eye protection

Safety glasses with side shields (EN 166).

Skin protection

Hand protection

Nitrile gloves, CEN standards EN 374.

Remark : When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

Body protection

Only wear fitting, comfortable and clean protective clothing.

Suitable protective clothing : Full protection suit

Respiratory protection

If technical exhaust or ventilation measures are not possible or insufficient, respiratory protection must be worn.

Suitable respiratory protection apparatus

Protective mask with filter A according to EN 136 or EN 140 and EN 145 providing recommendations on masks, as well as EN 149 and 143 of the filters.

Remark

The filter class must be suitable for the maximum contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If the concentration is exceeded, self-contained breathing apparatus must be used.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state			liquid	
Colour			colourless	
Odour			light	
Molecular weight		=	158	g/mol
Melting point/freezing point :	(1013 hPa)		No data available	
Vapour density	((air = 1))		5,4	
Initial boiling point and boiling range :	(1013 hPa)		179 - 191	°C
Decomposition temperature :			No data available	
Self flammability			241	°C
Flash point :		>	56	°C
Flammability (solid, gas)			Data not available	
Lower explosion limit :		=	0,6	Vol-%
Upper explosion limit :		=	6	Vol-%
Explosive properties			Product is not explosive	
Vapour pressure	(20 °C)	=	0,7	hPa

Density	(15 °C)		0,761	kg/dm³
Water solubility :	(20 °C)		not relevant	
pH :			No data available	
Log Pow	(20 °C)	>	4	
Viscosity :	(20 °C)		1,5	mm2/s
Viscosity :	(40 °C)		1,1	mm2/s
Odour threshold			Data not available	
Evaporation rate		=	0,07	
Maximum VOC content (EC) :		=	100	Wt %
Oxidizing properties			Not oxidising	
Particle characteristics:			not applicable	

9.2 Other information

None

SECTION 10: Stability and reactivity

10.1 Reactivity

No hazardous reactions when stored and handled properly.

10.2 Chemical stability

Stable under recommended storage and handling conditions(See section 7).

10.3 Possibility of hazardous reactions

No hazardous reactions when stored and handled properly.

10.4 Conditions to avoid

Keep away from sources of heat (e.g. hot surfaces), sparks and open flames.

10.5 Incompatible materials

Oxidizing agents.

10.6 Hazardous decomposition products

Carbon monoxide.

SECTION 11: Toxicological information

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

Acute toxicity

no negative effect

Acute oral toxicity

Parameter :	LD50 (Hydrocarbons, C11-C12, isoalkanes, < 2% aromatics)
Exposure route :	Oral
Species :	Rat
Effective dose :	> 5000 mg/kg bw/day

Acute dermal toxicity

Parameter :	LD50 (Hydrocarbons, C11-C12, isoalkanes, < 2% aromatics)
Exposure route :	Dermal
Species :	Rabbit
Effective dose :	> 3,16 ml/Kg bw
Method :	Read across

Acute inhalation toxicity

Parameter :	LC50 (Hydrocarbons, C11-C12, isoalkanes, < 2% aromatics)
Exposure route :	Inhalation
Species :	Rat
Effective dose :	> 5000 mg/m³

Exposure time : 8 h

Corrosion

Repeated exposure may cause skin dryness or cracking.

Respiratory or skin sensitisation

No known sensitizing effect.

Repeated dose toxicity (subacute, subchronic, chronic)

No specific target organ toxicity observed.

Subacute oral toxicity

Parameter :	NOAEL(C) (Hydrocarbons, C11-C12, isoalkanes, < 2% aromatics)
Exposure route :	Oral
Species :	Rat
Effective dose :	> 1000 mg/kg bw/day

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

Not known to be mutagenic, carcinogenic or toxic for reproduction.

Reproductive toxicity

Adverse effects on developmental toxicity

Parameter :	NOAEL (Fetal Development) (Hydrocarbons, C11-C12, isoalkanes, < 2% aromatics)
Exposure route :	Rat
Effective dose :	5200 mg/m³

Aspiration hazard

May be fatal if swallowed and enters airways.

11.2 Information on other hazards

Endocrine disrupting properties

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 12: Ecological information

Do not allow uncontrolled discharge of product into the environment.
VOC: Yes

12.1 Toxicity

Aquatic toxicity

Acute (short-term) fish toxicity

Parameter :	LL50 (Hydrocarbons, C11-C12, isoalkanes, < 2% aromatics)
Species :	Oncorhynchus mykiss
Effective dose :	> 1000 mg/l
Exposure time :	24 h

Acute (short-term) toxicity to crustacea

Parameter :	EL50 (Hydrocarbons, C11-C12, isoalkanes, < 2% aromatics)
Species :	Daphnia magna
Effective dose :	> 1000 mg/l
Exposure time :	24 h

Acute (short-term) toxicity to aquatic algae and cyanobacteria

Parameter :	EL50 (Hydrocarbons, C11-C12, isoalkanes, < 2% aromatics)
Species :	Pseudokirchneriella subcapitata
Effective dose :	> 1000 mg/l
Exposure time :	72 h

12.2 Persistence and degradability

Biodegradation
Readily biodegradable

12.3 Bioaccumulative potential
Shortly bioaccumulative

12.4 Mobility in soil
Evaporates quickly. Moderate absorption into soil and sediment.

12.5 Results of PBT and vPvB assessment
This product is none, or does not contain a substance called a PBT or vPvB.

12.6 Endocrine disrupting properties
The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

12.7 Other adverse effects
No information available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods
Give to an incinerator or in an approved landfill in accordance with local regulations. contaminated packaging: Collect all residues and contaminated packaging. After an appropriate cleaning, packaging can be reused. The packages to be disposed of are to be considered as the material itself.

SECTION 14: Transport information

14.1 UN number
UN 3295

14.2 UN proper shipping name
Land transport (ADR/RID)
HYDROCARBONS, LIQUID, N.O.S.

Sea transport (IMDG)
HYDROCARBONS, LIQUID, N.O.S.

Air transport (ICAO-TI / IATA-DGR)
HYDROCARBONS, LIQUID, N.O.S.

14.3 Transport hazard class(es)
Land transport (ADR/RID)

Class(es) :	3
Classification code :	F1
Tunnel restriction code :	D/E
Special provisions :	LQ 5 l · E 1
Hazard label(s) :	3

Sea transport (IMDG)

Class(es) :	3
EmS-No. :	F-E / S-D
Special provisions :	LQ 5 l · E 1

Air transport (ICAO-TI / IATA-DGR)

Class(es) :	3
Special provisions :	E 1
Hazard label(s) :	3

14.4 Packing group

III

14.5 Environmental hazards

Land transport (ADR/RID) : No
Sea transport (IMDG) : No
Air transport (ICAO-TI / IATA-DGR) : No

14.6 Special precautions for user

None

14.7 Maritime transport in bulk according to IMO instruments

Substance Name: TOXIC LIQUID, NF, (7) NOS Ship Type Required: 3 Pollution Category: Y

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

EU legislation

Regulation n°. 1907/2006/CE (REACh).
Regulation n°. 1272/2008/CE (CLP) and subsequent amendments.
Reg. 878/2020/UE (Amending Regulation (EC) no. 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

Authorisations and/or restrictions on use

Substance subjected to restriction in accordance with the Annex XVII of Regulation (CE) 1907/2006. (restriction num. 3 and 40)

Other regulations (EU)

Regulation (CE) 1907/2006: Substance of very high concern (SVHC) included in the Candidate List
None

National regulations

Italy: Legislative Decree 81/2008 (Consolidated Law on protection of health and safety at work), as amended and Directive 2009/161/UE - chemical risk assessment in accordance with Title IX Italy: Product subject to legislative decree June 26, 2015 No 105 and Directive 2012/18/EU: P5a P5b P5c Flammable liquids Category 2 or 3: based on use and conditions of the user

Water hazard class (WGK)

Classification according to VwVwS - Class : nwg (Non-hazardous to water)

15.2 Chemical safety assessment

For this substance a chemical safety assessment has been carried out.

SECTION 16: Other information

16.1 Indication of changes

Identification of the substance/mixture and of the company/ undertaking Hazards identification Firefighting measures Physical and chemical properties Toxicological information Ecological information Disposal considerations Regulatory information Other information

16.2 Abbreviations and acronyms

LEGENDA:

ADR:	Accord européen relative au transport international des marchandises dangereuses par route (accordo europeo relativo al trasporto internazionale delle merci pericolose su strada)
ASTM:	ASTM International, originariamente nota come American Society for Testing and Materials (ASTM)
EINECS:	European Inventory of Existing Commercial Chemical Substances (Registro Europeo delle Sostanze chimiche in Commercio)
EC(0/50/100):	Effective Concentration 0/50/100 (Concentrazione Effettiva Massima per 0/50100% degli Individui)
LC(0/50/100):	Lethal Concentration 0/50/100 (Concentrazione Letale per 0/50100% degli Individui)

IC50:	Inhibitor Concentration 50 (Concentrazione Inibente per il 50% degli Individui)
NOEL:	No Observed Effect Level (Dose massima senza effetti)
NOEC:	No Observed Effect Concentration (Concentrazione massima senza effetti)
LOEC:	Lowest Observed Effect Concentration (Concentrazione massima alla quale è possibile evidenziare un effetto)
DNEL:	Derived No Effect Level (Dose derivata di non effetto)
DMEL:	Derived Minimum Effect Level (Dose derivata di minimo effetto)
CLP:	Classification, Labelling and Packaging (Classificazione, Etichettatura e Imballaggio)
CSR:	Rapporto sulla Sicurezza Chimica (Chemical Safety Report)
LD(0/50/100):	Lethal Dose 0/50/100 (Dose Letale per 0/50/100% degli Individui)
IATA:	International Air Transport Association (Associazione Internazionale del Trasporto Aereo)
ICAO:	International Civil Aviation Organization (Organizzazione Internazionale dell'Aviazione Civile)
Codice IMDG:	International Maritime Dangerous Goods code (Codice sul Regolamento del Trasporto Marittimo)
PBT:	Persistent, bioaccumulative and toxic (sostanze persistenti bioaccumulabili e tossiche)
RID:	Règlement concernent le transport International ferroviaire des marchandises Dangereuses (Regolamento concernente il trasporto Internazionale ferroviario delle merci Pericolose)
STEL:	Short term exposure limit (limite di esposizione a breve termine)
TLV:	Threshold limit value (soglia di valore limite)
TWA:	Time Weighted Average (media ponderata nel tempo)
UE:	Unione Europea
vPvB:	Very persistent very bioaccumulative (sostanze molto persistenti e molto bioaccumulabili)
N.D.:	Non disponibile.
N.A.:	Non applicabile
VwVwS.:	Text of Administrative Regulation on the Classification of Substances hazardous to waters into Water Hazard Classes (Verwaltungsvorschrift wassergefährdende Stoffe – VwVwS)
PNEC:	Predicted No Effect Concentration
PNOS:	Particulates not Otherwise Specified
BOD:	Biochemical Oxygen Demand
COD:	Chemical Oxygen Demand
BCF:	BioConcentration Factor
TRGS :	Technische Regeln für Gefahrstoffe -Technical Rules for Hazardous Substances, defined by The Federal Institute for Occupational Safety and Health, Germany
LCLo:	Lethal Concentration Low (La minima concentrazione letale)
ThOD:	Theoretical Oxygen Demand

16.3 Key literature references and sources for data

None

16.4 Relevant H- and EUH-phrases (Number and full text)

H226	Flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
EUH066	Repeated exposure may cause skin dryness or cracking.

16.5 Training advice

None

16.6 Additional information

None

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

No.	Short title	Main User Group (SU)	Sector of Use (SU)	Product Category (PC)	Process Category (PROC)	Environmental Release Category (ERC)	Article Category (AC)	Specified
1	Manufacture of substance	3	8, 9, 10	NA	1, 2, 3, 4, 8a, 8b, 15	1, 4	NA	ES7382
2	Distribution of substance	3	8, 9	NA	1, 2, 3, 4, 8a, 8b, 9, 15	1, 2, 3, 4, 5, 6a, 6b, 6c, 6d, 7	NA	ES7384
3	Formulation & (re)packing of substances and mixtures	3	10	NA	1, 2, 3, 4, 5, 8a, 8b, 9, 14, 15	2	NA	ES7386
4	Use in rubber production and processing	3	NA	NA	1, 2, 3, 4, 5, 6, 7, 8a, 8b, 9, 13, 14, 15, 21	1, 4, 6d	NA	ES7513
5	Use in polymer processing	3	10	NA	1, 2, 3, 4, 5, 6, 8a, 8b, 9, 13, 14, 21	4	NA	ES7489
6	Use in polymer processing	22	NA	NA	1, 2, 3, 6, 8a, 8b, 14, 21	8a, 8d	NA	ES7491
7	Use in coatings	3	NA	NA	1, 2, 3, 4, 5, 7, 8a, 8b, 9, 10, 13, 14, 15	4	NA	ES7388
8	Use in coatings	22	NA	NA	1, 2, 3, 4, 5, 8a, 8b, 10, 11, 13, 15, 19	8a, 8d	NA	ES7391
9	Use in coatings	21	NA	1, 4, 8, 9a, 9b, 9c, 15, 18, 23, 24, 31, 34	NA	8a, 8d	NA	ES7497
10	Use in cleaning agents	3	NA	NA	1, 2, 3, 4, 7, 8a, 8b, 10, 13	4	NA	ES7449
11	Use in cleaning agents	22	NA	NA	1, 2, 3, 4, 5, 8a, 8b, 10, 11, 13, 15, 19	8a, 8d	NA	ES7451
12	Use in cleaning agents	21	NA	3, 4, 8, 9a, 9b, 9c, 24, 35, 38	NA	8a, 8d	NA	ES7499
13	Use in binder and release agents	22	NA	NA	1, 2, 3, 4, 6, 8a, 8b, 10, 11, 14	8a, 8d	NA	ES11482
14	Use as lubricants	3	NA	NA	1, 2, 3, 4,	4, 7	NA	ES7453

					7, 8a, 8b, 9, 10, 13, 17, 18			
15	Use as lubricants	22	NA	NA	1, 2, 3, 4, 8a, 8b, 9, 10, 11, 13, 17, 18, 20	8a, 8d, 9a, 9b	NA	ES7455
16	Use as lubricants	21	NA	1, 24, 31	NA	9a, 9b	NA	ES11476
17	Use as lubricants	21	NA	1, 24, 31	NA	8a, 8d	NA	ES11478
18	Use as Functional Fluids	3	NA	NA	1, 2, 3, 4, 8a, 8b, 9	7	NA	ES7467
19	Use as Functional Fluids	22	NA	NA	1, 2, 3, 8a, 9, 20	9a, 9b	NA	ES7483
20	Use as Functional Fluids	21	NA	16, 17	NA	9a, 9b	NA	ES7507
21	Use in laboratories	3	NA	NA	10, 15	2, 4	NA	ES7485
22	Use in laboratories	22	NA	NA	10, 15	8a	NA	ES7487
23	Use as lubricants	21	NA	1, 24, 31	NA	8a, 8d	NA	ES7501
24	Use in metal working fluids / rolling oils	3	NA	NA	1, 2, 3, 4, 5, 7, 8a, 8b, 9, 10, 13, 17	4	NA	ES7457
25	Use in metal working fluids / rolling oils	22	NA	NA	1, 2, 3, 5, 8a, 8b, 9, 10, 11, 13, 17	8a, 8d	NA	ES7459
26	Use in road and construction applications	22	NA	NA	1, 2, 8a, 8b, 9, 10, 11, 13	8d, 8f	NA	ES7511
27	Use as water treatment chemicals	3	NA	NA	1, 2, 3, 4, 8a, 8b, 13	3, 4	NA	ES7493
28	Use as water treatment chemicals	22	NA	NA	1, 2, 3, 4, 8a, 8b, 13	8f	NA	ES7495
29	Use in explosives	22	NA	NA	1, 2, 3, 5, 8a, 8b	8e	NA	ES11480
30	Other consumer uses	21	NA	28, 39	NA	8a, 8d	NA	ES7509

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 industrial sites
Sectors of end-use	SU8: Manufacture of bulk, large scale chemicals (including petroleum products) SU9: Manufacture of fine chemicals SU 10: Formulation
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 PROC15: Use as laboratory reagent
Environmental Release Categories	ERC1: Manufacture of substances ERC4: Industrial use of processing aids in processes and products, not becoming part of articles

2.1 Contributing scenario controlling environmental exposure for: ERC1, ERC4		
Amount used	Fraction of EU tonnage used in region:	0,1
	Regional use tonnage (tons/year):	3900 ton(s)/year
	Fraction of regional tonnage used locally:	1
	Annual amount per site	3900 ton(s)/year
	Maximum daily site tonnage (kg/day):	39000 kg
Frequency and duration of use	Continuous exposure	100 days/year
Environment factors not influenced by risk management	Dilution Factor (River)	10
	Dilution Factor (Coastal Areas)	100
Other given operational conditions affecting environmental exposure	Emission or Release Factor: Air	0,0001
	Emission or Release Factor: Water	0,00001
	Emission or Release Factor: Soil	0,0001
	initial release prior to RMM, .	
Technical conditions and measures at process level 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: 90 %)
	Water	Prevent discharge of undissolved substance to or recover from onsite wastewater., If discharging to domestic sewage treatment plant, no secondary wastewater treatment required.

releases to soil Organizational measures to prevent/limit release from the site	Soil	Do not apply industrial sludge to natural soils.
	Sediment	Risk from environmental exposure is driven by freshwater sediment.
	Water	Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of (%): (Degradation effectiveness: > 0 %)
	Water	If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of (%): (Degradation effectiveness: > 0 %)
Conditions and measures related to sewage treatment plant	Flow rate of sewage treatment plant effluent	10.000 m3/d
	Degradation efficiency	95,1 %
	Sludge Treatment	Sewage sludge should be incinerated, contained or reclaimed.
Conditions and measures related to external recovery of waste	Recovery Methods	During manufacturing no waste of the substance is generated.

2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC15

not required

3. Exposure estimation and reference to its source

Environment

ESVOC SPERC 1.1.v1: Hydrocarbon Block Method (Petrorisk)

Contributing Scenario	Specific conditions	Compartment	Value	Level of Exposure	RCR
ESVOC SPERC 1.1.v1	---	---	---	---	---

Workers

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

Environment
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.
Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.
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.
Health
Where other risk management measures/operational conditions are adopted, then users should ensure that risks

are managed to at least equivalent levels.

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 PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing) PROC15: Use as laboratory reagent
Environmental Release Categories	ERC1: Manufacture of substances ERC2: Formulation of preparations ERC3: Formulation in materials ERC4: Industrial use of processing aids in processes and products, not becoming part of articles ERC5: Industrial use resulting in inclusion into or onto a matrix ERC6a: Industrial use resulting in manufacture of another substance (use of intermediates) ERC6b: Industrial use of reactive processing aids ERC6c: Industrial use of monomers for manufacture of thermoplastics ERC6d: Industrial use of process regulators for polymerisation processes in production of resins, rubbers, polymers ERC7: Industrial use of substances in closed systems

2.1 Contributing scenario controlling environmental exposure for: ERC1, ERC2, ERC3, ERC4, ERC5, ERC6a, ERC6b, ERC6c, ERC6d, ERC7		
Amount used	Fraction of EU tonnage used in region:	0,1
	Regional use tonnage (tons/year):	660 ton(s)/year
	Fraction of regional tonnage used locally:	0,002
	Annual amount per site	1,3 ton(s)/year
	Maximum daily site tonnage (kg/day):	66 kg
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
Other given operational conditions affecting environmental exposure	Emission or Release Factor: Air	0,00001

	Emission or Release Factor: Water	0,00000
	Emission or Release Factor: Soil	0,00001
	initial release prior to RMM, .	
Technical conditions and measures at process level 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: 90 %)
	Water	Prevent discharge of undissolved substance to or recover from onsite wastewater., If discharging to domestic sewage treatment plant, no secondary wastewater treatment required.
	Soil	Do not apply industrial sludge to natural soils.
	Sediment	Risk from environmental exposure is driven by freshwater sediment.
	Water	Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of (%): (Degradation effectiveness: > 0 %)
	Water	If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of (%): (Degradation effectiveness: > 0 %)
Conditions and measures related to sewage treatment plant	Flow rate of sewage treatment plant effluent	2.000 m3/d
	Degradation efficiency	95,1 %
	Sludge Treatment	Sewage sludge should be incinerated, contained or reclaimed.
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 controlling worker exposure for: PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC9, PROC15

not required

3. Exposure estimation and reference to its source

Environment

ESVOC SPERC 1.1b.v1: Hydrocarbon Block Method (Petrorisk)

Contributing Scenario	Specific conditions	Compartment	Value	Level of Exposure	RCR
ESVOC SPERC 1.1b.v1	---	---	Msafe	3300kg/day	---

Workers

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

Environment
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.
Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.
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).
Health
Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

1. Short title of Exposure Scenario 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	
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) 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) PROC14: Production of preparations or articles by tabletting, compression, extrusion, pelletisation PROC15: Use as laboratory reagent	
Environmental Release Categories	ERC2: Formulation of preparations	
2.1 Contributing scenario controlling environmental exposure for: ERC2		
Amount used	Fraction of EU tonnage used in region:	0,1
	Regional use tonnage (tons/year):	160 ton(s)/year
	Fraction of regional tonnage used locally:	1
	Annual amount per site	160 ton(s)/year
	Maximum daily site tonnage (kg/day):	1600 kg
Frequency and duration of use	Continuous exposure	100 days/year
Environment factors not influenced by risk management	Dilution Factor (River)	10
	Dilution Factor (Coastal Areas)	100
Other given operational conditions affecting environmental exposure	Emission or Release Factor: Air	0,0005
	Emission or Release Factor: Water	0,05 .10-4
	Emission or Release Factor: Soil	0,0001
	initial release prior to RMM, .	
Technical conditions and measures at process level to prevent release	Air	Treat air emission to provide a typical removal efficiency of (%): (Efficiency: 0 %)
	Water	Risk from environmental exposure is driven by

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		freshwater., Prevent discharge of undissolved substance to or recover from onsite wastewater., If discharging to domestic sewage treatment plant, no secondary wastewater treatment required.
	Soil	Do not apply industrial sludge to natural soils.
	Water	Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of (%): (Degradation effectiveness: > 0 %)
	Water	If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of (%): (Degradation effectiveness: > 0 %)
Conditions and measures related to sewage treatment plant	Flow rate of sewage treatment plant effluent	2.000 m3/d
	Degradation efficiency	95,1 %
	Sludge Treatment	Sewage sludge should be incinerated, contained or reclaimed.
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 controlling worker exposure for: PROC1, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC9, PROC14, PROC15

not required

3. Exposure estimation and reference to its source

Environment

ESVOC SPERC 2.2.v1: Hydrocarbon Block Method (Petrorisk)

Contributing Scenario	Specific conditions	Compartment	Value	Level of Exposure	RCR
ESVOC SPERC 2.2.v1	---	---	Msafe	67000kg/day	---

Workers

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

Environment
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.
Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.
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).
Health

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

1. Short title of Exposure Scenario 4: Use in rubber production and processing	
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 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, pelletisation PROC15: Use as laboratory reagent PROC21: Low energy manipulation of substances bound in materials and/ or articles
Environmental Release Categories	ERC1: Manufacture of substances ERC4: Industrial use of processing aids in processes and products, not becoming part of articles ERC6d: Industrial use of process regulators for polymerisation processes in production of resins, rubbers, polymers

2.1 Contributing scenario controlling environmental exposure for: ERC1, ERC4, ERC6d		
Amount used	Maximum daily site tonnage (kg/day):	250 kg
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
Other given operational conditions affecting environmental exposure	Emission or Release Factor: Air	0,01
	Emission or Release Factor: Water	0,00001
	Emission or Release Factor: Soil	0,0001
	initial release prior to RMM, .	
Technical conditions and measures at process level to prevent release Technical onsite conditions and measures to reduce or limit	Air	Treat air emission to provide a typical removal efficiency of (%): (Efficiency: 0 %)
	Water	Risk from environmental exposure is driven by freshwater., Prevent discharge of undissolved

discharges, air emissions and releases to soil Organizational measures to prevent/limit release from the site		substance to or recover from onsite wastewater., If discharging to domestic sewage treatment plant, no secondary wastewater treatment required., No wastewater treatment required.
	Soil	Do not apply industrial sludge to natural soils.
	Water	Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of (%): (Degradation effectiveness: 0 %)
	Water	If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of (%): (Degradation effectiveness: 0 %)
Conditions and measures related to sewage treatment plant	Flow rate of sewage treatment plant effluent	2.000 m3/d
	Degradation efficiency	95,1 %
	Sludge Treatment	Sewage sludge should be incinerated, contained or reclaimed.
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 controlling worker exposure for: PROC1, PROC2, PROC3, PROC4, PROC5, PROC6, PROC7, PROC8a, PROC8b, PROC9, PROC13, PROC14, PROC21, PROC15

not required

3. Exposure estimation and reference to its source

Environment

Hydrocarbon Block Method (Petrorisk)

Contributing Scenario	Specific conditions	Compartment	Value	Level of Exposure	RCR
---	---	---	Msafe	12000kg/day	---

Workers

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

Environment
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.
Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.
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).
Health
Where other risk management measures/operational conditions are adopted, then users should ensure that risks

are managed to at least equivalent levels.

1. Short title of Exposure Scenario 5: Use in polymer processing	
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
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 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, pelletisation PROC21: Low energy manipulation of substances bound in materials and/ or articles
Environmental Release Categories	ERC4: Industrial use of processing aids in processes and products, not becoming part of articles

2.1 Contributing scenario controlling environmental exposure for: ERC4		
Amount used	Fraction of EU tonnage used in region:	0,1
	Regional use tonnage (tons/year):	3,9 ton(s)/year
	Fraction of regional tonnage used locally:	1
	Annual amount per site	3,9 ton(s)/year
	Maximum daily site tonnage (kg/day):	200 kg
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
Other given operational conditions affecting environmental exposure	Emission or Release Factor: Air	0,02
	Emission or Release Factor: Water	0
	Emission or Release Factor: Soil	0,00001
	initial release prior to RMM, .	

Technical conditions and measures at process level 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: 80 %)
	Water	Risk from environmental exposure is driven by freshwater., Prevent discharge of undissolved substance to or recover from onsite wastewater., If discharging to domestic sewage treatment plant, no secondary wastewater treatment required.
	Soil	Do not apply industrial sludge to natural soils.
	Water	Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of (%): (Degradation effectiveness: 0 %)
	Water	If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of (%): (Degradation effectiveness: > 0 %)
Conditions and measures related to sewage treatment plant	Flow rate of sewage treatment plant effluent	2.000 m3/d
	Degradation efficiency	95,1 %
	Sludge Treatment	Sewage sludge should be incinerated, contained or reclaimed.
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 controlling worker exposure for: PROC1, PROC2, PROC3, PROC4, PROC5, PROC6, PROC8a, PROC8b, PROC9, PROC13, PROC14, PROC21

not required

3. Exposure estimation and reference to its source

Environment

Hydrocarbon Block Method (Petrorisk)

Contributing Scenario	Specific conditions	Compartment	Value	Level of Exposure	RCR
---	---	---	Msafe	130000kg/day	---

Workers

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

Environment
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.
Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.
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).
Health
Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

1. Short title of Exposure Scenario 6: Use in polymer processing		
Main User Groups	SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)	
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) PROC6: Calendering operations 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 PROC14: Production of preparations or articles by tabletting, compression, extrusion, pelletisation PROC21: Low energy manipulation of substances bound in materials and/ or articles	
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	Fraction of EU tonnage used in region:	0,1
	Regional use tonnage (tons/year):	0,015 ton(s)/year
	Fraction of regional tonnage used locally:	0,005
	Annual amount per site	0,00001 ton(s)/year
	Daily amount per site	0,021 g/day
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
Other given operational conditions affecting environmental exposure	Emission or Release Factor: Air	0,98
	Emission or Release Factor: Water	0,01
	Emission or Release Factor: Soil	0,01
	initial release prior to RMM, .	
Technical conditions and measures at process level 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	Risk from environmental exposure is driven by freshwater., Prevent discharge of undissolved substance to or recover from onsite wastewater., If discharging to domestic sewage treatment plant, no secondary wastewater treatment required.
	Soil	Do not apply industrial sludge to natural soils.

	Water	If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of (%): (Degradation effectiveness: > 0 %)
	Water	Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of (%): (Degradation effectiveness: 0 %)
Conditions and measures related to sewage treatment plant	Flow rate of sewage treatment plant effluent	2.000 m3/d
	Degradation efficiency	95,1 %
	Sludge Treatment	Sewage sludge should be incinerated, contained or reclaimed.
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 controlling worker exposure for: PROC1, PROC2, PROC3, PROC6, PROC8a, PROC8b, PROC14, PROC21

not required

3. Exposure estimation and reference to its source

Environment

Hydrocarbon Block Method (Petrorisk)

Contributing Scenario	Specific conditions	Compartment	Value	Level of Exposure	RCR
---	---	---	Msafe	0,001kg/day	---

Workers

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

Environment
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.
Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.
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).
Health
Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

1. Short title of Exposure Scenario 7: Use in coatings		
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 PROC5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/ or significant contact) 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) PROC10: Roller application or brushing PROC13: Treatment of articles by dipping and pouring PROC14: Production of preparations or articles by tabletting, compression, extrusion, pelletisation PROC15: Use as laboratory reagent	
Environmental Release Categories	ERC4: Industrial use of processing aids in processes and products, not becoming part of articles	
2.1 Contributing scenario controlling environmental exposure for: ERC4		
Amount used	Fraction of EU tonnage used in region:	0,1
	Regional use tonnage (tons/year):	300 ton(s)/year
	Fraction of regional tonnage used locally:	1
	Annual amount per site	300 ton(s)/year
	Maximum daily site tonnage (kg/day):	15000 kg
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
Other given operational conditions affecting environmental exposure	Emission or Release Factor: Air	0,098
	Emission or Release Factor: Water	0,00002
	Emission or Release Factor: Soil	0
	initial release prior to RMM, .	
Technical conditions and measures at process level to	Air	Treat air emission to provide a typical removal

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		efficiency of (%): (Efficiency: 90 %)
	Water	Risk from environmental exposure is driven by freshwater., Prevent discharge of undissolved substance to or recover from onsite wastewater., If discharging to domestic sewage treatment plant, no secondary wastewater treatment required.
	Soil	Do not apply industrial sludge to natural soils.
	Water	Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of (%): (Degradation effectiveness: 72 %)
	Water	If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of (%): (Degradation effectiveness: > 0 %)
Conditions and measures related to sewage treatment plant	Flow rate of sewage treatment plant effluent	2.000 m3/d
	Degradation efficiency	95,1 %
	Sludge Treatment	Sewage sludge should be incinerated, contained or reclaimed.
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 controlling worker exposure for: PROC1, PROC2, PROC3, PROC4, PROC5, PROC7, PROC8a, PROC8b, PROC9, PROC10, PROC13, PROC14, PROC15

not required

3. Exposure estimation and reference to its source

Environment

ESVOC SPERC 4.3a.v1: Hydrocarbon Block Method (Petrorisk)

Contributing Scenario	Specific conditions	Compartment	Value	Level of Exposure	RCR
ESVOC SPERC 4.3a.v1	---	---	Msafe	86000kg/day	---

Workers

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

Environment
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.
Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.
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).
Health
Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

1. Short title of Exposure Scenario 8: Use in coatings	
Main User Groups	SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
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) 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 PROC11: Non industrial spraying PROC13: Treatment of articles by dipping and pouring PROC15: Use as laboratory reagent PROC19: Hand-mixing with intimate contact and only PPE available
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	Fraction of EU tonnage used in region:	0,1
	Regional use tonnage (tons/year):	300 ton(s)/year
	Fraction of regional tonnage used locally:	0,0005
	Annual amount per site	0,15 ton(s)/year
	Maximum daily site tonnage (kg/day):	0,41 kg
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
Other given operational conditions affecting environmental exposure	Emission or Release Factor: Air	0,98
	Emission or Release Factor: Water	0,01
	Emission or Release Factor: Soil	0,01
	initial release prior to RMM, .	
Technical conditions and measures at process level to prevent release Technical onsite conditions and measures to reduce or limit	Air	Treat air emission to provide a typical removal efficiency of (%): (Efficiency: 0 %)
	Water	Risk from environmental exposure is driven by freshwater., Prevent discharge of undissolved

discharges, air emissions and releases to soil Organizational measures to prevent/limit release from the site		substance to or recover from onsite wastewater., If discharging to domestic sewage treatment plant, no secondary wastewater treatment required.
	Soil	Do not apply industrial sludge to natural soils.
	Water	Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of (%): (Degradation effectiveness: 0 %)
	Water	If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of (%): (Degradation effectiveness: > 0 %)
Conditions and measures related to sewage treatment plant	Flow rate of sewage treatment plant effluent	2.000 m3/d
	Degradation efficiency	95,1 %
	Sludge Treatment	Sewage sludge should be incinerated, contained or reclaimed.
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 controlling worker exposure for: PROC1, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC10, PROC11, PROC13, PROC15, PROC19

not required

3. Exposure estimation and reference to its source

Environment

ESVOC SPERC 8.3b.v1: Hydrocarbon Block Method (Petrorisk)

Contributing Scenario	Specific conditions	Compartment	Value	Level of Exposure	RCR
ESVOC SPERC 8.3b.v1	---	---	Msafe	18kg/day	---

Workers

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

Environment
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.
Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.
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).
Health
Where other risk management measures/operational conditions are adopted, then users should ensure that risks

are managed to at least equivalent levels.

1. Short title of Exposure Scenario 9: Use in coatings		
Main User Groups	SU 21: Consumer uses: Private households (= general public = consumers)	
Chemical product category	PC1: Adhesives, sealants PC4: Anti-Freeze and de-icing products PC8: Biocidal products (e.g. Disinfectants, pest control) 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 PC24: Lubricants, greases, release 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 controlling environmental exposure for: ERC8a, ERC8d		
Amount used	Fraction of EU tonnage used in region:	0,1
	Regional use tonnage (tons/year):	60 ton(s)/year
	Fraction of regional tonnage used locally:	0,00005
	Annual amount per site	0,03 ton(s)/year
	Maximum daily site tonnage (kg/day):	0,082 kg
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
Other given operational conditions affecting environmental exposure	Emission or Release Factor: Air	0,985
	Emission or Release Factor: Water	0,01
	Emission or Release Factor: Soil	0,005
	initial release prior to RMM, .	
Technical conditions and measures at process level 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	No risk management measures required to demonstrate environmental safe use	

Conditions and measures related to sewage treatment plant	Flow rate of sewage treatment plant effluent	2.000 m3/d
	Degradation efficiency	95,1 %
	Sludge Treatment	Sewage sludge should be incinerated, contained or reclaimed.
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 controlling consumer exposure for: PC1, PC4, PC8, PC9a, PC9b, PC9c, PC15, PC18, PC23, PC24, PC31, PC34

Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)	Risk management measures are based on qualitative risk characterisation.

3. Exposure estimation and reference to its source

Environment

ESVOC SPERC 8.3c.v1: Hydrocarbon Block Method (Petrorisk)

Contributing Scenario	Specific conditions	Compartment	Value	Level of Exposure	RCR
ESVOC SPERC 8.3c.v1	---	---	Msafe	4kg/day	---

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

Environment
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.
Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.
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).
Health
Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

1. Short title of Exposure Scenario 10: Use in cleaning agents		
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 processing aids in processes and products, not becoming part of articles	
2.1 Contributing scenario controlling environmental exposure for: ERC4		
Amount used	Fraction of EU tonnage used in region:	0,1
	Regional use tonnage (tons/year):	240 ton(s)/year
	Fraction of regional tonnage used locally:	0,0005
	Annual amount per site	0,12 ton(s)/year
	Maximum daily site tonnage (kg/day):	0,33 kg
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
Other given operational conditions affecting environmental exposure	Emission or Release Factor: Air	0,02
	Emission or Release Factor: Water	1 .10-6
	Emission or Release Factor: Soil	0
	initial release prior to RMM, .	
Technical conditions and measures at process level 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	Risk from environmental exposure is driven by freshwater., Prevent discharge of undissolved substance to or recover from onsite wastewater., If discharging to domestic sewage treatment plant, no secondary wastewater treatment required.
	Soil	Do not apply industrial sludge to natural soils.

	Water	Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of (%): (Degradation effectiveness: 0 %)
	Water	If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of (%): (Degradation effectiveness: > 0 %)
Conditions and measures related to sewage treatment plant	Flow rate of sewage treatment plant effluent	2.000 m3/d
	Degradation efficiency	95,1 %
	Sludge Treatment	Sewage sludge should be incinerated, contained or reclaimed.
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 controlling worker exposure for: PROC1, PROC2, PROC3, PROC4, PROC7, PROC8a, PROC8b, PROC10, PROC13

not required

3. Exposure estimation and reference to its source

Environment

ESVOC SPERC 4.4a.v1: Hydrocarbon Block Method (Petrorisk)

Contributing Scenario	Specific conditions	Compartment	Value	Level of Exposure	RCR
ESVOC SPERC 4.4a.v1	---	---	Msafe	16kg/day	---

Workers

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

Environment
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.
Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.
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).
Health
Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

1. Short title of Exposure Scenario 11: Use in cleaning agents	
Main User Groups	SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
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) 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 PROC11: Non industrial spraying PROC13: Treatment of articles by dipping and pouring PROC15: Use as laboratory reagent PROC19: Hand-mixing with intimate contact and only PPE available
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	Fraction of EU tonnage used in region:	0,1
	Regional use tonnage (tons/year):	220 ton(s)/year
	Fraction of regional tonnage used locally:	0,00084
	Annual amount per site	0,18 ton(s)/year
	Maximum daily site tonnage (kg/day):	0,49 kg
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
Other given operational conditions affecting environmental exposure	Emission or Release Factor: Air	0,02
	Emission or Release Factor: Water	1 .10-6
	Emission or Release Factor: Soil	0
	initial release prior to RMM, .	
Technical conditions and measures at process level to prevent release Technical onsite conditions and measures to reduce or limit	Air	Treat air emission to provide a typical removal efficiency of (%): (Efficiency: 0 %)
	Water	Risk from environmental exposure is driven by freshwater., Prevent discharge of undissolved

discharges, air emissions and releases to soil Organizational measures to prevent/limit release from the site		substance to or recover from onsite wastewater., If discharging to domestic sewage treatment plant, no secondary wastewater treatment required.
	Soil	Do not apply industrial sludge to natural soils.
	Water	Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of (%): (Degradation effectiveness: 0 %)
	Water	If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of (%): (Degradation effectiveness: > 0 %)
Conditions and measures related to sewage treatment plant	Flow rate of sewage treatment plant effluent	2.000 m3/d
	Degradation efficiency	95,1 %
	Sludge Treatment	Sewage sludge should be incinerated, contained or reclaimed.
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 controlling worker exposure for: PROC1, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC10, PROC11, PROC13, PROC15, PROC19

not required

3. Exposure estimation and reference to its source

Environment

ESVOC SPERC 8.4b.v1: Hydrocarbon Block Method (Petrorisk)

Contributing Scenario	Specific conditions	Compartment	Value	Level of Exposure	RCR
ESVOC SPERC 8.4b.v1	---	---	Msafe	24kg/day	---

Workers

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

Environment
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.
Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.
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).
Health
Where other risk management measures/operational conditions are adopted, then users should ensure that risks

are managed to at least equivalent levels.

1. Short title of Exposure Scenario 12: Use in cleaning agents		
Main User Groups	SU 21: Consumer uses: Private households (= general public = consumers)	
Chemical product category	PC3: Air care products PC4: Anti-Freeze and de-icing products PC8: Biocidal products (e.g. Disinfectants, pest control) PC9a: Coatings and paints, thinners, paint removers PC9b: Fillers, putties, plasters, modelling clay PC9c: Finger paints PC24: Lubricants, greases, release products PC35: Washing and cleaning products (including solvent based products) PC38: Welding and soldering products (with flux coatings or flux cores.), flux products	
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	Fraction of EU tonnage used in region:	0,1
	Regional use tonnage (tons/year):	30 ton(s)/year
	Fraction of regional tonnage used locally:	0,0005
	Annual amount per site	0,015 ton(s)/year
	Maximum daily site tonnage (kg/day):	0,041 kg
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
Other given operational conditions affecting environmental exposure	Emission or Release Factor: Air	0,95
	Emission or Release Factor: Water	0,025
	Emission or Release Factor: Soil	0,025
	initial release prior to RMM, .	
Technical conditions and measures at process level 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	No risk management measures required to demonstrate environmental safe use	
Conditions and measures related to sewage treatment plant	Flow rate of sewage treatment plant effluent	2.000 m3/d

	Degradation efficiency	95,1 %
	Sludge Treatment	Sewage sludge should be incinerated, contained or reclaimed.
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 controlling consumer exposure for: PC3, PC4, PC8, PC9a, PC9b, PC9c, PC24, PC35, PC38

Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)	Risk management measures are based on qualitative risk characterisation.

3. Exposure estimation and reference to its source

Environment

ESVOC SPERC 8.4c.v1: Hydrocarbon Block Method (Petrorisk)

Contributing Scenario	Specific conditions	Compartment	Value	Level of Exposure	RCR
ESVOC SPERC 8.4c.v1	---	---	Msafe	2kg/day	---

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

Environment
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.
Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.
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).
Health
Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

1. Short title of Exposure Scenario 13: Use in binder and release agents		
Main User Groups	SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)	
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 PROC6: Calendering operations 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 PROC11: Non industrial spraying PROC14: Production of preparations or articles by tabletting, compression, extrusion, pelletisation	
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	Fraction of EU tonnage used in region:	0,1
	Regional use tonnage (tons/year):	100 ton(s)/year
	Fraction of regional tonnage used locally:	1
	Annual amount per site	0,05 ton(s)/year
	Maximum daily site tonnage (kg/day):	0,14 kg
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
Other given operational conditions affecting environmental exposure	Emission or Release Factor: Air	0,95
	Emission or Release Factor: Water	0,025
	Emission or Release Factor: Soil	0,025
	initial release prior to RMM, .	
Technical conditions and measures at process level to prevent release Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	Air	Treat air emission to provide a typical removal efficiency of (%): (Efficiency: 0 %)
	Water	Risk from environmental exposure is driven by freshwater., Prevent discharge of undissolved substance to or recover from onsite wastewater., If discharging to domestic sewage treatment plant, no

Organizational measures to prevent/limit release from the site		secondary wastewater treatment required., No wastewater treatment required.
	Soil	Do not apply industrial sludge to natural soils.
	Water	If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of (%): (Degradation effectiveness: > 0 %)
	Water	Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of (%): (Degradation effectiveness: 0 %)
Conditions and measures related to sewage treatment plant	Flow rate of sewage treatment plant effluent	2.000 m3/d
	Degradation efficiency	95,1 %
	Sludge Treatment	Sewage sludge should be incinerated, contained or reclaimed.
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 controlling worker exposure for: PROC1, PROC2, PROC3, PROC4, PROC6, PROC8a, PROC8b, PROC10, PROC11, PROC14

not required

3. Exposure estimation and reference to its source

Environment

Hydrocarbon Block Method (Petrorisk)

Contributing Scenario	Specific conditions	Compartment	Value	Level of Exposure	RCR
---	---	Sewage treatment plant (STP)	Msafe	6,2kg/day	---
---	---	Air	---	---	0,0021
---	---	Water	---	---	0,0085

Workers

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

Environment
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.
Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.
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).

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

1. Short title of Exposure Scenario 14: Use as lubricants	
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 PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing) PROC10: Roller application or brushing PROC13: Treatment of articles by dipping and pouring PROC17: Lubrication at high energy conditions and in partly open process PROC18: Greasing at high energy conditions
Environmental Release Categories	ERC4: Industrial use of processing aids in processes and products, not becoming part of articles ERC7: Industrial use of substances in closed systems

2.1 Contributing scenario controlling environmental exposure for: ERC4, ERC7		
Amount used	Fraction of EU tonnage used in region:	0,1
	Regional use tonnage (tons/year):	46 ton(s)/year
	Fraction of regional tonnage used locally:	1
	Annual amount per site	46 ton(s)/year
	Maximum daily site tonnage (kg/day):	2300 kg
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
Other given operational conditions affecting environmental exposure	Emission or Release Factor: Air	0,0003
	Emission or Release Factor: Water	1 .10-6
	Emission or Release Factor: Soil	0,001
	initial release prior to RMM, .	
Technical conditions and measures at process level to prevent release Technical onsite conditions and	Air	Treat air emission to provide a typical removal efficiency of (%): (Efficiency: 70 %)
	Water	Risk from environmental exposure is driven by

measures to reduce or limit discharges, air emissions and releases to soil Organizational measures to prevent/limit release from the site		freshwater., Prevent discharge of undissolved substance to or recover from onsite wastewater., If discharging to domestic sewage treatment plant, no secondary wastewater treatment required.
	Soil	Do not apply industrial sludge to natural soils.
	Water	Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of (%): (Degradation effectiveness: 0 %)
	Water	If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of (%): (Degradation effectiveness: > 0 %)
Conditions and measures related to sewage treatment plant	Flow rate of sewage treatment plant effluent	2.000 m3/d
	Degradation efficiency	95,1 %
	Sludge Treatment	Sewage sludge should be incinerated, contained or reclaimed.
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 controlling worker exposure for: PROC1, PROC2, PROC3, PROC4, PROC7, PROC8a, PROC8b, PROC9, PROC10, PROC13, PROC17, PROC18

not required

3. Exposure estimation and reference to its source

Environment

ESVOC SPERC 4.6a.v1: Hydrocarbon Block Method (Petrorisk)

Contributing Scenario	Specific conditions	Compartment	Value	Level of Exposure	RCR
ESVOC SPERC 4.6a.v1	---	---	Msafe	11000kg/day	---

Workers

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

Environment
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.
Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.
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).
Health

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

1. Short title of Exposure Scenario 15: Use as lubricants	
Main User Groups	SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
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 PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing) PROC10: Roller application or brushing PROC11: Non industrial spraying PROC13: Treatment of articles by dipping and pouring PROC17: Lubrication at high energy conditions and in partly open process PROC18: Greasing at high energy conditions PROC20: Heat and pressure transfer fluids in dispersive, professional use but closed systems
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		
Product characteristics	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 %.
Amount used	Fraction of EU tonnage used in region:	0,1
	Regional use tonnage (tons/year):	23 ton(s)/year
	Fraction of regional tonnage used locally:	0,0005
	Annual amount per site	0,012 ton(s)/year
	Maximum daily site tonnage (kg/day):	0,032 kg
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
Other given operational conditions affecting environmental exposure	Emission or Release Factor: Air	0,015
	Emission or Release Factor: Water	0,05
	Emission or Release	0,05

	Factor: Soil	
	initial release prior to RMM, .	
Technical conditions and measures at process level 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	Risk from environmental exposure is driven by freshwater., Prevent discharge of undissolved substance to or recover from onsite wastewater., If discharging to domestic sewage treatment plant, no secondary wastewater treatment required.
	Soil	Do not apply industrial sludge to natural soils.
	Water	If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of (%): (Degradation effectiveness: > 0 %)
	Water	Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of (%): (Degradation effectiveness: 0 %)
Conditions and measures related to sewage treatment plant	Flow rate of sewage treatment plant effluent	2.000 m3/d
	Degradation efficiency	95,1 %
	Sludge Treatment	Sewage sludge should be incinerated, contained or reclaimed.
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 controlling worker exposure for: PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC10, PROC11, PROC13, PROC17, PROC18, PROC20

Product characteristics	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 %.
	Physical Form (at time of use)	liquid
Frequency and duration of use	Covers daily exposures up to 8 hours	

not required

3. Exposure estimation and reference to its source

Environment

ESVOC SPERC 8.6c.v1: Hydrocarbon Block Method (Petrorisk)

Contributing Scenario	Specific conditions	Compartment	Value	Level of Exposure	RCR
ESVOC SPERC 8.6c.v1	---	---	Msafe	1,5kg/day	---

Workers

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

Environment
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.
Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.
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).
Health
Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

1. Short title of Exposure Scenario 16: Use as lubricants		
Main User Groups	SU 21: Consumer uses: Private households (= general public = consumers)	
Chemical product category	PC1: Adhesives, sealants PC24: Lubricants, greases, release products PC31: Polishes and wax blends	
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		
Amount used	Fraction of EU tonnage used in region:	0,1
	Regional use tonnage (tons/year):	20 ton(s)/year
	Fraction of regional tonnage used locally:	0,0005
	Annual amount per site	0,01 ton(s)/year
	Maximum daily site tonnage (kg/day):	0,027 kg
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
Other given operational conditions affecting environmental exposure	Emission or Release Factor: Air	0,01
	Emission or Release Factor: Water	0,01
	Emission or Release Factor: Soil	0,01
	initial release prior to RMM, .	
Technical conditions and measures at process level 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	No risk management measures required to demonstrate environmental safe use	
Conditions and measures related to sewage treatment plant	Flow rate of sewage treatment plant effluent	2.000 m3/d
	Degradation efficiency	95,1 %
	Sludge Treatment	Sewage sludge should be incinerated, contained or reclaimed.
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 controlling consumer exposure for: PC1, PC24, PC31	
Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)	Risk management measures are based on qualitative risk characterisation.

3. Exposure estimation and reference to its source

Environment

ESVOC SPERC 9.6d.v1: Hydrocarbon Block Method (Petrorisk)

Contributing Scenario	Specific conditions	Compartment	Value	Level of Exposure	RCR
ESVOC SPERC 9.6d.v1	---	---	Msafe	1,3kg/day	---
---	---	Water	---	---	0,0069
---	---	Air	---	---	0,00016

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

Environment
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.
Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.
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).
Health
Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

1. Short title of Exposure Scenario 17: Use as lubricants		
Main User Groups	SU 21: Consumer uses: Private households (= general public = consumers)	
Chemical product category	PC1: Adhesives, sealants PC24: Lubricants, greases, release products PC31: Polishes and wax blends	
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	Fraction of EU tonnage used in region:	0,1
	Regional use tonnage (tons/year):	20 ton(s)/year
	Fraction of regional tonnage used locally:	0,0005
	Annual amount per site	0,01 ton(s)/year
	Maximum daily site tonnage (kg/day):	0,027 kg
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
Other given operational conditions affecting environmental exposure	Emission or Release Factor: Air	0,015
	Emission or Release Factor: Water	0,05
	Emission or Release Factor: Soil	0,05
	initial release prior to RMM, .	
Technical conditions and measures at process level 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	No risk management measures required to demonstrate environmental safe use	
Conditions and measures related to sewage treatment plant	Flow rate of sewage treatment plant effluent	2.000 m3/d
	Degradation efficiency	95,1 %
	Sludge Treatment	Sewage sludge should be incinerated, contained or reclaimed.
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 controlling consumer exposure for: PC1, PC24, PC31	
Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)	Risk management measures are based on qualitative risk characterisation.

3. Exposure estimation and reference to its source

Environment

ESVOC SPERC 8.6e.v1: Hydrocarbon Block Method (Petrorisk)

Contributing Scenario	Specific conditions	Compartment	Value	Level of Exposure	RCR
ESVOC SPERC 8.6e.v1	---	---	Msafe	1,3kg/day	---
---	---	Air	---	---	0,00082
---	---	Water	---	---	0,0075

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

Environment
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.
Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.
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).
Health
Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

1. Short title of Exposure Scenario 18: 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 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		
Amount used	Fraction of EU tonnage used in region:	0,1
	Regional use tonnage (tons/year):	70 ton(s)/year
	Fraction of regional tonnage used locally:	0,14
	Annual amount per site	10 ton(s)/year
	Maximum daily site tonnage (kg/day):	500 kg
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
Other given operational conditions affecting environmental exposure	Emission or Release Factor: Air	0,001
	Emission or Release Factor: Water	1 .10-6
	Emission or Release Factor: Soil	0,001
	initial release prior to RMM, .	
Technical conditions and measures at process level 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: 95 %)
	Water	Risk from environmental exposure is driven by freshwater., Prevent discharge of undissolved substance to or recover from onsite wastewater., If discharging to domestic sewage treatment plant, no secondary wastewater treatment required.
	Soil	Do not apply industrial sludge to natural soils.

	Water	Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of (%): (Degradation effectiveness: 15 %)
	Water	If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of (%): (Degradation effectiveness: > 0 %)
Conditions and measures related to sewage treatment plant	Flow rate of sewage treatment plant effluent	2.000 m3/d
	Degradation efficiency	95,1 %
	Sludge Treatment	Sewage sludge should be incinerated, contained or reclaimed.
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 controlling worker exposure for: PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC9

Product characteristics	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 %.
	Physical Form (at time of use)	liquid
Frequency and duration of use	Covers daily exposures up to 8 hours	
Other operational conditions affecting workers exposure	Assumes a good basic standard of occupational hygiene is implemented.	

not required

3. Exposure estimation and reference to its source

Environment

ESVOC SPERC 7.13a.v1: Hydrocarbon Block Method (Petrorisk)

Contributing Scenario	Specific conditions	Compartment	Value	Level of Exposure	RCR
ESVOC SPERC 7.13a.v1	---	---	Msafe	24000kg/day	---

Workers

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

Environment
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.
Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.

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

1. Short title of Exposure Scenario 19: Use as Functional Fluids		
Main User Groups	SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)	
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 PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing) PROC20: Heat and pressure transfer fluids in dispersive, professional use but closed systems	
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		
Amount used	Fraction of EU tonnage used in region:	0,1
	Regional use tonnage (tons/year):	70 ton(s)/year
	Fraction of regional tonnage used locally:	0,0005
	Annual amount per site	0,035 ton(s)/year
	Maximum daily site tonnage (kg/day):	0,096 kg
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
Other given operational conditions affecting environmental exposure	Emission or Release Factor: Air	0,0001
	Emission or Release Factor: Water	0,00001
	Emission or Release Factor: Soil	0,00001
	initial release prior to RMM, .	
Technical conditions and measures at process level 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	Risk from environmental exposure is driven by freshwater., Prevent discharge of undissolved substance to or recover from onsite wastewater., If discharging to domestic sewage treatment plant, no secondary wastewater treatment required.
	Soil	Do not apply industrial sludge to natural soils.
	Water	If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal

		efficiency of (%): (Degradation effectiveness: > 0 %)
	Water	Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of (%): (Degradation effectiveness: 0 %)
Conditions and measures related to sewage treatment plant	Flow rate of sewage treatment plant effluent	2.000 m3/d
	Degradation efficiency	95,1 %
	Sludge Treatment	Sewage sludge should be incinerated, contained or reclaimed.
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 controlling worker exposure for: PROC1, PROC2, PROC3, PROC8a, PROC9, PROC20

Product characteristics	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 %.
	Physical Form (at time of use)	liquid
Frequency and duration of use	Covers daily exposures up to 8 hours	
Other operational conditions affecting workers exposure	Assumes a good basic standard of occupational hygiene is implemented.	

not required

3. Exposure estimation and reference to its source

Environment

ESVOC SPERC 9.13b.v1: Hydrocarbon Block Method (Petrorisk)

Contributing Scenario	Specific conditions	Compartment	Value	Level of Exposure	RCR
ESVOC SPERC 9.13b.v1	---	---	Msafe	4,5kg/day	---

Workers

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

Environment
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.
Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.
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).
Health
Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

1. Short title of Exposure Scenario 20: Use as Functional Fluids		
Main 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 controlling environmental exposure for: ERC9a, ERC9b		
Amount used	Fraction of EU tonnage used in region:	0,1
	Regional use tonnage (tons/year):	70 ton(s)/year
	Fraction of regional tonnage used locally:	0,00005
	Annual amount per site	0,035 ton(s)/year
	Maximum daily site tonnage (kg/day):	0,096 kg
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
Other given operational conditions affecting environmental exposure	Emission or Release Factor: Air	0,05
	Emission or Release Factor: Water	0,025
	Emission or Release Factor: Soil	0,025
	initial release prior to RMM, .	
Technical conditions and measures at process level 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	No risk management measures required to demonstrate environmental safe use	
Conditions and measures related to sewage treatment plant	Flow rate of sewage treatment plant effluent	2.000 m3/d
	Degradation efficiency	95,1 %
	Sludge Treatment	Sewage sludge should be incinerated, contained or reclaimed.
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 controlling consumer exposure for: PC16, PC17		

Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)	Risk management measures are based on qualitative risk characterisation.

3. Exposure estimation and reference to its source

Environment

ESVOC SPERC 9.13c.v1: Hydrocarbon Block Method (Petrorisk)

Contributing Scenario	Specific conditions	Compartment	Value	Level of Exposure	RCR
ESVOC SPERC 9.13c.v1	---	---	Msafe	4,5kg/day	---

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

Environment
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.
Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.
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).
Health
Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

1. Short title of Exposure Scenario 21: Use in laboratories		
Main User Groups	SU 3: Industrial uses: Uses of substances as such or in preparations at industrial 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 becoming part of articles	
2.1 Contributing scenario controlling environmental exposure for: ERC2, ERC4		
Amount used	Fraction of EU tonnage used in region:	0,1
	Regional use tonnage (tons/year):	1 ton(s)/year
	Fraction of regional tonnage used locally:	1
	Annual amount per site	1 ton(s)/year
	Maximum daily site tonnage (kg/day):	50 kg
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
Other given operational conditions affecting environmental exposure	Emission or Release Factor: Air	0,025
	Emission or Release Factor: Water	0,02
	Emission or Release Factor: Soil	0,0001
	initial release prior to RMM, .	
Technical conditions and measures at process level 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	Risk from environmental exposure is driven by freshwater., Prevent discharge of undissolved substance to or recover from onsite wastewater., If discharging to domestic sewage treatment plant, no secondary wastewater treatment required.
	Soil	Do not apply industrial sludge to natural soils.
	Water	Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of (%): (Degradation effectiveness: 91,6 %)
	Water	If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of (%): (Degradation effectiveness: > 0 %)

Conditions and measures related to sewage treatment plant	Flow rate of sewage treatment plant effluent	2.000 m3/d
	Degradation efficiency	95,1 %
	Sludge Treatment	Sewage sludge should be incinerated, contained or reclaimed.
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 controlling worker exposure for: PROC10, PROC15

not required

3. Exposure estimation and reference to its source

Environment

Hydrocarbon Block Method (Petrorisk)

Contributing Scenario	Specific conditions	Compartment	Value	Level of Exposure	RCR
---	---	---	Msafe	86kg/day	---

Workers

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

Environment
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.
Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.
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).
Health
Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

1. Short title of Exposure Scenario 22: 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		
Amount used	Fraction of EU tonnage used in region:	0,1
	Regional use tonnage (tons/year):	1 ton(s)/year
	Fraction of regional tonnage used locally:	0,0005
	Annual amount per site	0,0005 ton(s)/year
	Daily amount per site	1,4 g/day
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
Other given operational conditions affecting environmental exposure	Emission or Release Factor: Air	0,05
	Emission or Release Factor: Water	0,05
	Emission or Release Factor: Soil	0
	initial release prior to RMM, .	
Technical conditions and measures at process level 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	Risk from environmental exposure is driven by freshwater., Prevent discharge of undissolved substance to or recover from onsite wastewater., If discharging to domestic sewage treatment plant, no secondary wastewater treatment required., No wastewater treatment required.
	Soil	Do not apply industrial sludge to natural soils.
	Water	If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of (%): (Degradation effectiveness: > 0 %)
	Water	Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of (%): (Degradation effectiveness: 0 %)
Conditions and measures related to sewage treatment plant	Flow rate of sewage treatment plant effluent	2.000 m3/d

	Degradation efficiency	95,1 %
	Sludge Treatment	Sewage sludge should be incinerated, contained or reclaimed.
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 controlling worker exposure for: PROC10, PROC15

not required

3. Exposure estimation and reference to its source

Environment

ESVOC SPERC 8.17.v1: Hydrocarbon Block Method (Petrorisk)

Contributing Scenario	Specific conditions	Compartment	Value	Level of Exposure	RCR
ESVOC SPERC 8.17.v1	---	---	Msafe	0,067kg/day	---

Workers

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

Environment
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.
Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.
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).
Health
Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

1. Short title of Exposure Scenario 23: Use as lubricants		
Main User Groups	SU 21: Consumer uses: Private households (= general public = consumers)	
Chemical product category	PC1: Adhesives, sealants PC24: Lubricants, greases, release products PC31: Polishes and wax blends	
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	Fraction of EU tonnage used in region:	0,1
	Regional use tonnage (tons/year):	20 ton(s)/year
	Fraction of regional tonnage used locally:	0,0005
	Annual amount per site	0,01 ton(s)/year
	Maximum daily site tonnage (kg/day):	0,027 kg
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
Other given operational conditions affecting environmental exposure	Emission or Release Factor: Air	0,015
	Emission or Release Factor: Water	0,05
	Emission or Release Factor: Soil	0,05
	initial release prior to RMM, .	
Technical conditions and measures at process level 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	No risk management measures required to demonstrate environmental safe use	
Conditions and measures related to sewage treatment plant	Flow rate of sewage treatment plant effluent	2.000 m3/d
	Degradation efficiency	95,1 %
	Sludge Treatment	Sewage sludge should be incinerated, contained or reclaimed.
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 controlling consumer exposure for: PC1, PC24, PC31	
Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)	Risk management measures are based on qualitative risk characterisation.

3. Exposure estimation and reference to its source

Environment

ESVOC SPERC 8.6c.v1: Hydrocarbon Block Method (Petrorisk)

Contributing Scenario	Specific conditions	Compartment	Value	Level of Exposure	RCR
ESVOC SPERC 8.6c.v1	---	---	Msafe	1,3kg/day	---

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

Environment
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.
Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.
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).
Health
Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

1. Short title of Exposure Scenario 24: Use in metal working fluids / rolling oils		
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 PROC5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/ or significant contact) 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) PROC10: Roller application or brushing PROC13: Treatment of articles by dipping and pouring PROC17: Lubrication at high energy conditions and in partly open process	
Environmental Release Categories	ERC4: Industrial use of processing aids in processes and products, not becoming part of articles	
2.1 Contributing scenario controlling environmental exposure for: ERC4		
Amount used	Fraction of EU tonnage used in region:	0,1
	Regional use tonnage (tons/year):	43 ton(s)/year
	Fraction of regional tonnage used locally:	1
	Annual amount per site	43 ton(s)/year
	Maximum daily site tonnage (kg/day):	2100 kg
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
Other given operational conditions affecting environmental exposure	Emission or Release Factor: Air	0,006
	Emission or Release Factor: Water	1 .10-5
	Emission or Release Factor: Soil	0
	initial release prior to RMM, .	
Technical conditions and measures at process level to prevent release Technical onsite conditions and	Air	Treat air emission to provide a typical removal efficiency of (%): (Efficiency: 70 %)
	Water	Risk from environmental exposure is driven by

measures to reduce or limit discharges, air emissions and releases to soil Organizational measures to prevent/limit release from the site		freshwater., Prevent discharge of undissolved substance to or recover from onsite wastewater., If discharging to domestic sewage treatment plant, no secondary wastewater treatment required.
	Soil	Do not apply industrial sludge to natural soils.
	Water	Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of (%): (Degradation effectiveness: 0 %)
	Water	If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of (%): (Degradation effectiveness: > 0 %)
Conditions and measures related to sewage treatment plant	Flow rate of sewage treatment plant effluent	2.000 m3/d
	Degradation efficiency	95,1 %
	Sludge Treatment	Sewage sludge should be incinerated, contained or reclaimed.
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 controlling worker exposure for: PROC1, PROC2, PROC3, PROC4, PROC5, PROC7, PROC8a, PROC8b, PROC9, PROC10, PROC13, PROC17

not required

3. Exposure estimation and reference to its source

Environment

ESVOC SPERC 4.7a.v1: Hydrocarbon Block Method (Petrorisk)

Contributing Scenario	Specific conditions	Compartment	Value	Level of Exposure	RCR
ESVOC SPERC 4.7a.v1	---	---	Msafe	100000kg/day	---

Workers

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

Environment
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.
Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.
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).
Health

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

1. Short title of Exposure Scenario 25: Use in metal working fluids / rolling oils		
Main User Groups	SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)	
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) PROC5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/ or significant contact) 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) PROC10: Roller application or brushing PROC11: Non industrial spraying PROC13: Treatment of articles by dipping and pouring PROC17: Lubrication at high energy conditions and in partly open process	
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	Fraction of EU tonnage used in region:	0,1
	Regional use tonnage (tons/year):	21 ton(s)/year
	Fraction of regional tonnage used locally:	0,0005
	Annual amount per site	0,011 ton(s)/year
	Maximum daily site tonnage (kg/day):	0,029 kg
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
Other given operational conditions affecting environmental exposure	Emission or Release Factor: Air	0,015
	Emission or Release Factor: Water	0,05
	Emission or Release Factor: Soil	0,05
	initial release prior to RMM, .	
Technical conditions and measures at process level 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	Risk from environmental exposure is driven by freshwater., Prevent discharge of undissolved substance to or recover from onsite wastewater., If

releases to soil Organizational measures to prevent/limit release from the site		discharging to domestic sewage treatment plant, no secondary wastewater treatment required., No wastewater treatment required.
	Soil	Do not apply industrial sludge to natural soils.
	Water	If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of (%): (Degradation effectiveness: > 0 %)
	Water	Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of (%): (Degradation effectiveness: 0 %)
Conditions and measures related to sewage treatment plant	Flow rate of sewage treatment plant effluent	2.000 m3/d
	Degradation efficiency	95,1 %
	Sludge Treatment	Sewage sludge should be incinerated, contained or reclaimed.
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 controlling worker exposure for: PROC1, PROC2, PROC3, PROC5, PROC8a, PROC8b, PROC9, PROC10, PROC11, PROC13, PROC17

Other operational conditions affecting workers exposure	Assumes a good basic standard of occupational hygiene is implemented.

not required

3. Exposure estimation and reference to its source

Environment

ESVOC SPERC 8.7c.v1: Hydrocarbon Block Method (Petrorisk)

Contributing Scenario	Specific conditions	Compartment	Value	Level of Exposure	RCR
ESVOC SPERC 8.7c.v1	---	---	Msafe	1,4kg/day	---

Workers

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

Environment
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.
Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.
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).

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

1. Short title of Exposure Scenario 26: Use in road and construction applications	
Main User Groups	SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Process categories	PROC1: Use in closed process, no likelihood of exposure PROC2: Use in closed, continuous process with occasional controlled exposure 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) PROC10: Roller application or brushing PROC11: Non industrial spraying PROC13: Treatment of articles by dipping and pouring
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		
Amount used	Maximum daily site tonnage (kg/day):	0,14 kg
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
Other given operational conditions affecting environmental exposure	Emission or Release Factor: Air	0,95
	Emission or Release Factor: Water	0,01
	Emission or Release Factor: Soil	0,04
	initial release prior to RMM, .	
Technical conditions and measures at process level 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	Risk from environmental exposure is driven by freshwater., Prevent discharge of undissolved substance to or recover from onsite wastewater., If discharging to domestic sewage treatment plant, no secondary wastewater treatment required., No wastewater treatment required.
	Soil	Do not apply industrial sludge to natural soils.
	Water	If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of (%): (Degradation effectiveness: 0 %)
	Water	Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of (%): (Degradation effectiveness: 0 %)
Conditions and measures related	Flow rate of sewage	2.000 m3/d

to sewage treatment plant	treatment plant effluent	
	Degradation efficiency	95,1 %
	Sludge Treatment	Sewage sludge should be incinerated, contained or reclaimed.
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 controlling worker exposure for: PROC1, PROC2, PROC8a, PROC8b, PROC9, PROC10, PROC11, PROC13

Other operational conditions affecting workers exposure	Assumes a good basic standard of occupational hygiene is implemented.

not required

3. Exposure estimation and reference to its source

Environment

Hydrocarbon Block Method (Petrorisk)

Contributing Scenario	Specific conditions	Compartment	Value	Level of Exposure	RCR
---	---	---	Msafe	6,5kg/day	---

Workers

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

Environment
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.
Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.
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).
Health
Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

1. Short title of Exposure Scenario 27: Use as water treatment chemicals	
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 PROC13: Treatment of articles by dipping and pouring
Environmental Release Categories	ERC3: Formulation in materials ERC4: Industrial use of processing aids in processes and products, not becoming part of articles

2.1 Contributing scenario controlling environmental exposure for: ERC3, ERC4		
Amount used	Fraction of EU tonnage used in region:	0,1
	Regional use tonnage (tons/year):	43 ton(s)/year
	Fraction of regional tonnage used locally:	0,71
	Annual amount per site	30 ton(s)/year
	Maximum daily site tonnage (kg/day):	100 kg
Frequency and duration of use	Continuous exposure	300 days/year
Environment factors not influenced by risk management	Dilution Factor (River)	10
	Dilution Factor (Coastal Areas)	100
Other given operational conditions affecting environmental exposure	Emission or Release Factor: Air	0,05
	Emission or Release Factor: Water	0,016
	Emission or Release Factor: Soil	0
	initial release prior to RMM, .	
Technical conditions and measures at process level 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	Risk from environmental exposure is driven by freshwater., Prevent discharge of undissolved substance to or recover from onsite wastewater., If discharging to domestic sewage treatment plant, no secondary wastewater treatment required.
	Soil	Do not apply industrial sludge to natural soils.

	Water	Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of (%): (Degradation effectiveness: 99,8 %)
	Water	If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of (%): (Degradation effectiveness: 96,4 %)
Conditions and measures related to sewage treatment plant	Flow rate of sewage treatment plant effluent	2.000 m3/d
	Degradation efficiency	95,1 %
	Sludge Treatment	Sewage sludge should be incinerated, contained or reclaimed.
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 controlling worker exposure for: PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC13

not required

3. Exposure estimation and reference to its source

Environment

Hydrocarbon Block Method (Petrorisk)

Contributing Scenario	Specific conditions	Compartment	Value	Level of Exposure	RCR
---	---	---	Msafe	100kg/day	---

Workers

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

Environment
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.
Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.
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).
Health
Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

1. Short title of Exposure Scenario 28: Use as water treatment chemicals		
Main User Groups	SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)	
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 PROC13: Treatment of articles by dipping and pouring	
Environmental Release Categories	ERC8f: Wide dispersive outdoor use resulting in inclusion into or onto a matrix	
2.1 Contributing scenario controlling environmental exposure for: ERC8f		
Amount used	Fraction of EU tonnage used in region:	0,1
	Regional use tonnage (tons/year):	43 ton(s)/year
	Fraction of regional tonnage used locally:	0,035
	Annual amount per site	1,5 ton(s)/year
	Maximum daily site tonnage (kg/day):	4 kg
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
Other given operational conditions affecting environmental exposure	Emission or Release Factor: Air	0,01
	Emission or Release Factor: Water	0,39
	Emission or Release Factor: Soil	0
	initial release prior to RMM, .	
Technical conditions and measures at process level 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	Risk from environmental exposure is driven by freshwater., Prevent discharge of undissolved substance to or recover from onsite wastewater., If discharging to domestic sewage treatment plant, no secondary wastewater treatment required.
	Soil	Do not apply industrial sludge to natural soils.
	Water	If discharging to domestic sewage treatment plant,

		provide the required onsite wastewater removal efficiency of (%): (Degradation effectiveness: 57 %)
	Water	Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of (%): (Degradation effectiveness: 97,9 %)
Conditions and measures related to sewage treatment plant	Flow rate of sewage treatment plant effluent	2.000 m3/d
	Degradation efficiency	95,1 %
	Sludge Treatment	Sewage sludge should be incinerated, contained or reclaimed.
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 controlling worker exposure for: PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC13

Other operational conditions affecting workers exposure	Assumes a good basic standard of occupational hygiene is implemented.

not required

3. Exposure estimation and reference to its source

Environment

Hydrocarbon Block Method (Petrorisk)

Contributing Scenario	Specific conditions	Compartment	Value	Level of Exposure	RCR
---	---	---	Msafe	4kg/day	---

Workers

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

Environment
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.
Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.
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).
Health
Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

1. Short title of Exposure Scenario 29: Use in explosives		
Main User Groups	SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)	
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) PROC5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/ or significant contact) 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	
Environmental Release Categories	ERC8e: Wide dispersive outdoor use of reactive substances in open systems	
2.1 Contributing scenario controlling environmental exposure for: ERC8e		
Amount used	Fraction of EU tonnage used in region:	0,1
	Regional use tonnage (tons/year):	0,0005 ton(s)/year
	Fraction of regional tonnage used locally:	1
	Annual amount per site	< 0 ton(s)/year
	Maximum daily site tonnage (kg/day):	< 0,006 kg
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
Other given operational conditions affecting environmental exposure	Emission or Release Factor: Air	0,001
	Emission or Release Factor: Water	0,02
	Emission or Release Factor: Soil	0,01
	initial release prior to RMM, .	
Technical conditions and measures at process level 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	Risk from environmental exposure is driven by freshwater., Prevent discharge of undissolved substance to or recover from onsite wastewater., If discharging to domestic sewage treatment plant, no secondary wastewater treatment required., No wastewater treatment required.
	Soil	Do not apply industrial sludge to natural soils.
	Water	If discharging to domestic sewage treatment plant,

		provide the required onsite wastewater removal efficiency of (%): (Degradation effectiveness: > 0 %)
	Water	Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of (%): (Degradation effectiveness: 0 %)
Conditions and measures related to sewage treatment plant	Flow rate of sewage treatment plant effluent	2.000 m3/d
	Degradation efficiency	95,1 %
	Sludge Treatment	Sewage sludge should be incinerated, contained or reclaimed.
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 controlling worker exposure for: PROC1, PROC2, PROC3, PROC5, PROC8a, PROC8b

not required

3. Exposure estimation and reference to its source

Environment

Hydrocarbon Block Method (Petrorisk)

Contributing Scenario	Specific conditions	Compartment	Value	Level of Exposure	RCR
---	---	---	Msafe	0,00003kg/day	---
---	---	Air	---	---	0,00002
---	---	Water	---	---	0,0068

Workers

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

Environment
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.
Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.
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).
Health
Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

1. Short title of Exposure Scenario 30: Other consumer uses		
Main User Groups	SU 21: Consumer uses: Private households (= general public = consumers)	
Chemical product category	PC28: Perfumes, fragrances PC39: Cosmetics, personal care products	
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	
Activity	Note: this Exposure Scenario is only relevant for an appropriated use according to the quality grade of the substance delivered	
2.1 Contributing scenario controlling environmental exposure for: ERC8a, ERC8d		
Amount used	Fraction of EU tonnage used in region:	0,1
	Regional use tonnage (tons/year):	0,4 ton(s)/year
	Fraction of regional tonnage used locally:	0,0005
	Annual amount per site	0,0002 ton(s)/year
	Daily amount per site	0,55 g/day
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
Other given operational conditions affecting environmental exposure	Emission or Release Factor: Air	0,95
	Emission or Release Factor: Water	0,025
	Emission or Release Factor: Soil	0,025
	initial release prior to RMM, .	
Technical conditions and measures at process level 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	No risk management measures required to demonstrate environmental safe use	
Conditions and measures related to sewage treatment plant	Flow rate of sewage treatment plant effluent	2.000 m3/d
	Degradation efficiency	95,1 %
	Sludge Treatment	Sewage sludge should be incinerated, contained or reclaimed.
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 controlling consumer exposure for: PC28, PC39	
Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)	Risk management measures are based on qualitative risk characterisation.

3. Exposure estimation and reference to its source

Environment

ESVOC SPERC 8.16.v1: Hydrocarbon Block Method (Petrorisk)

Contributing Scenario	Specific conditions	Compartment	Value	Level of Exposure	RCR
ESVOC SPERC 8.16.v1	---	---	Msafe	0,027kg/day	---

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

Environment
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.
Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.
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).
Health
Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.