

SAFETY DATA SHEET

(in accordance with Annex II of Regulation (EC) No 1907/2006 (REACH) and its amendments)

MEG

Section 1. IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY/ UNDERTAKING

1.1 Product identifier

Product identifier: MONOETHYLENE GLYCOL

Chemical formula: ethane-1,2-diol

Synonym(s): CALOTECH MEG PUR inhibit CALOTECH MEG -20° inhibit

1.2 Relevant identified uses of the substance and uses advised against

Identified uses:

Anti-freezing agents

Recommended use restriction: use reserved for industrial or professional users.

1.3 Details of the supplier of the safety data sheet

Name: CALORIE FLUOR
Address: 411 rue Clément Ader

FR - 78530 BUC

Phone: +33 /1 39 24 16 70 Fax: +33 /1 39 56 07 18

e-mail address: <u>service.commercial@calorie-fluor.fr</u>

Web Site: http://www.calorie-fluor.fr

1.4 Emergency phone number

Phone: Outside the U.S.: 1-703-527-3887 (CHEMTREC)

Section 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or the mixture

Classification of the substance according to CLP (1272/2008/EC):

Acute toxicity (Oral), category 4

H302: Harmful if swallowed.

Specific target organ toxicity - repeated exposure, category 2

H373: May cause damage to organs (Kidney) through prolonged or repeated exposure.

2.2 <u>Label elements</u>

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

ETHYLENE GLYCOL

N° CE 203-473-3

Hazard symbols :



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SGH07 SGH08

Mention d'avertissement : WARMING

Hazard statements: H302 Harmful if swallowed.

H373 May cause damage to organs (Kidney) through prolonged or repeated

exposure.

Precautionary statements

Prevention: P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.

P264 Wash skin thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

Response: P314 Get medical advice/ attention if you feel unwell.

P301 + P312 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel

unwell.

Disposal: P501 Dispose of contents/ container to an approved waste disposal plant.

2.3 Other hazards

No other informations

Section 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substance

Chemical name (chemical formula)	Ethane-1,2-diol
Index number	603-027-00-1
CAS number	107-21-1
CE number	203-473-3
Reach registration number	01-2119456816-28
Concentration%	30 - 100%
Classification Regulation (EC) N°1272/2008	Acute Tox.4 - H302 ; STOT RE 2 - H373
110galation (20) 11 12/2/2000	⊓3/3

Section 4. FIRST AID MEASURES

Generally, in case of doubt or if symptoms persist, always call a doctor.

Never give anything by mouth to an unconscious person.

4.1 Description of necessary first-aid measures

Inhalation:

Move the person away from the contaminated area, to breathe fresh air. Oxygen or artificial respiration if needed. Take off all contaminated clothing immediately. Symptoms of poisoning may not appear for several hours. Keep under medical supervision for at least 48 hours. Consult a physician.

Contact with the skin:

Take off all contaminated clothing immediately. Wash immediately, abundantly and thoroughly with water. Contact with the eyes:

Wash immediately, abundantly and thoroughly with water. If irritation persists, consult an ophthalmologist. <u>Ingestion:</u>

Rinse mouth with water. Never give anything by mouth to an unconscious person. Don't induce vomiting. Consult a physician if necessary.

Rescuers protection:

In case of insufficient ventilation, wear suitable respiratory equipment.

4.2 Most important symptoms and effects, both acute and delayed

See section 11.

4.3 Indication of immediate medical attention and special treatment needed

Treatment: Treat symptomatically.

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Section 5. FIREFIGHTING MEASURES

5.1 Firefighting measures

Suitable extinguishing media:

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Cool containers / tanks with water spray.

Unsuitable extinguishing media: None

5.2 Special hazards arising from the substance or mixture

This product is not flammable in air under ambient conditions of temperature and pressure.

Hazardous decomposition products formed under fire conditions

- Carbon monoxide
- Carbon dioxide

5.3 Advice for firefighters

Wear self-contained breathing apparatus and protective clothing.

Wear chemical-resistant outerwear.

Section 6. ACCIDENTAL RELEASE MEASURES

6.1 <u>Personal precautions, protective equipment and emergency procedures</u>

Evacuate personnel not required or not equipped with personal protection.

Provide adequate ventilation.

Avoid contact with skin, eyes and inhalation of fumes.

Remove all ignition sources. Do not smoke

6.2 Environmental precautions

Do not dump into the environment.

Avoid spills or leaks.

Retain and dispose of contaminated washing water.

6.3 Methods and material for containment and cleaning up

Contain spillage, soak up with non-combustible absorbent material, (sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13). Pick up and transfer to properly labelled containers.

6.4 Reference to other sections

See Section 1 for emergency contact information.

See Section 8 for information on appropriate personal protective equipment.

See Section 13 for information on disposal and treatment of waste.

Section 7. HANDLING AND STORAGE

The regulations relating to storage premises apply to workshops where the mixture is handled.

7.1 Precautions for safe handling

Advice on safe handling: Keep container tightly closed. Ensure adequate ventilation. Handle in

accordance with good industrial hygiene and safety practice.

Hygiene measures: Keep away from food, drink and animal feeding stuffs. Smoking, eating and

drinking should be prohibited in the application area. Wash hands before breaks and at the end of workday. Take off all contaminated clothing

immediately.

7.2 Conditions for safe storage, including any incompatibilities

Store well-closed containers in a dry and well-ventilated place. Store in the original container.

Keep away from heat and ignition sources. Avoid direct exposure to the sun.

Do not smoke.

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7.3 Specific end use(s)

None.

Section 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Exposure limit values

Propane-1,2-diol: Contains no substances with occupational exposure limit values

Derived No Effect Level (DNEL)

	Component	inhalation	Skin contact	Ingestion
End	Workers	168 mg/m³ (LT, SE)	106 mg/m³ (LT, SE)	35 mg/m ³ (LT, SE)
Use		10 mg/m³ (LT, LE)		
	Consumers	50 mg/m ³ (LT, SE)	53 mg/m ³ (LT, SE)	7 mg/m ³ (LT, SE)
		10 mg/m³ (LT, LE)		

LE: Local effects, SE: Systemic effects, LT: Long-term, ST: short-term

Predicted No Effect Concentration (PNEC)

Composant	Propane-1,2-diol
Fresh water	10 mg/l
Sea water	1 mg/l
Water (intermittent release)	10 mg/l
Effects on wastewater treatment plants	199,5 mg/l
Fresh water sediment	20,9 mg/kg
Soil	1,53 mg/kg

dw: dry weight

8.2 Exposure controls

Appropriate engineering controls:

Ensure adequate ventilation. Ensure access to an eye shower.

Respiratory protection:

If ventilation is inadequate, use a respirator protection. Recommended Filter type:A

The vapours are heavier than air and can cause suffocation by lowering the oxygen content.

If risk of splash contact:

Hand Protection:

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact). polychloroprene Nitrile rubber butyl-rubber

Eye protection:

Safety glasses with side shields

Skin and body protection:

Wear suitable clothing to protect against splashes and contamination.

Hygiene measures:

Handle in accordance with good industrial hygiene and safety practice. Do not smoke during use.

Personal protective equipment:



Eye protection

Wear protective eyewear (goggles, face shield, or safety glasses).



Skin protection

Wear protective gloves

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Section 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information of basic physical and chemical properties

Appearance:

Physical state (20°C): Liquid Form: Liquid

Colour: Colourless, or, coloured, red, blue, yellow

Odour: slight

Vapour pressure: < 1 hPa (20 °C)

Density: ca. 1,03 - 1,10 g/cm3 (20 °C)

Melting point/range:ca. -13 °CBoiling point / range:100-197°CDensity:1.04 g/cm³Auto-ignition temperature:>400°CDecomposition temperature:>200°CFlash point:> 116 °C

Flammability: Non-flammable product

Upper explosion limit/ 28%

upper flammability limit

Lower explosion limit/ 3%

lower flammability limit

Oxidizing properties: Non-oxidizing product

Water solubility: not applicable

9.2 Other information

not determined

Section 10. STABILITY AND REACTIVITY

10.1 Reactivity

Stable under normal conditions of storage and handling.

10.2 Chemical stability

Product stable at room temperature

10.3 Possibility of hazardous reactions

No dangerous reaction known under conditions of normal use.

Reaction type: polymerisation

10.4 Conditions to avoid

Avoid moisture. Exposure to light. Exposure to air. Keep away from heat and sources of ignition. Keep away from direct sunlight.

10.5 <u>Incompatible materials</u>

Strong acids, Strong bases, Strong oxidizing agents

10.6 <u>Hazardous decomposition materials</u>

Hazardous decomposition products: Aldehydes, Alcohols, Organic acids

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Section 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity:

Component: propane-1,2,-diol

Oral: DL50: 7 712 mg/kg (rat)

Inhalation: CL50: > 2,5 mg/l (en aérosol; rat, 6h)

Skin: DL50: > 3500 mg/kg (souris)

Corrosion / skin irritation and severe eye damage / eye irritation:

No skin irritation (Rabbit) (OECD Test Guideline 404) No eye irritation (Rabbit) (OECD Test Guideline 405)

Respiratory or skin sensitization:

Does not cause skin sensitisation. (Maximisation Test; Guinea pig) (OECD Test Guideline 406)

Mutagenicity on germ cells

Not classified on the basis of available information.

Carcinogenicity

Not classified on the basis of available information.

Reproductive toxicity

Not classified on the basis of available information.

Specific target organ toxicity (STOT), Repeated dose toxicity

May cause damage to organs through prolonged or repeated exposure.

Aspiration toxicity

Not classified on the basis of available information

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Section 12. ECOLOGICAL INFORMATION

12.1 Toxicity

Component	propane-1,2,-diol
Fish	
CL50, 96h	72 860 mg/l
Species	Pimephales promelas;
Method	static test; EPA OPP 72-1
Aquatic invertebrates	
CL50, 48h	> 100 mg/l
Species	Daphnia magna
Method	OECD Test Guideline 202
Algae	
CE50, 96h	6500 - 13000 mg/l
Species	Selenastrum capricornutum
Method	End point: Growth rate
Bacteria	
EC50, 0.5h	> 1995 mg/l
Species	activated sludge;
Method	ISO 8192 Read-across (Analogy)

12.2 Persistence and degradability

Readily biodegradable.

12.3 Bioaccumulation potential

Bioaccumulation is unlikely.

12.4 Mobility in the soil

Groundwater contamination is possible., The product is water soluble.

12.5 Results of PBT and vPvB assessment

This substance is not considered to be persistent, bioaccumulative and toxic (PBT) or very persistent, very bioaccumulative (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

Do not flush into surface water or sanitary sewer system. Avoid subsoil penetration. Biochemical Oxygen Demand (BOD) : 1 245 mg/g

Section 13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product: Disposal together with normal waste is not allowed. Special disposal

required according to local regulations. Do not let product enter drains.

Contact waste disposal services.

Contaminated packaging: Empty contaminated packagings thoroughly. They can be recycled

after thorough and proper cleaning. If recycling is not practicable,

dispose of in compliance with local regulations.

European Waste Catalogue Number: No waste code according to the European Waste Catalogue can be

assigned for this product, as the intended use dictates the assignment. The waste code is established in consultation with the regional waste

disposer.

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Section 14. TRANSPORT INFORMATION

Not dangerous goods for ADR, RID, IMDG and IATA.

14.1 Label

Not applicable.

14.2 RID / ADR

Not applicable.

14.3 AND

Not applicable.

14.4 IMDG

Not applicable.

14.5 <u>IATA-DGR</u>

Not applicable.

14.6 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable.

Section 15. REGULATORY INFORMATION

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

European legislation

- CLP Regulation:
 - Regulation (CE) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/CE and 1999/45/EC and amending Regulation (CE) No 1907/2006, with amendments.

REACH regulation:

- Regulation (CE) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/CE and repealing Council Regulation (CEE) No 793/93 and Commission Regulation (CE) No 1488/94 as well as Council Directive 76/769/EEC and Directives Commission 91/155/CEE, 93/67/CEE, 93/105/EC and 2000/21/CE, with amendments.
 - REACH (article 59) Candidate list of substance of very hight concern for authorisation : not applicable
 - REACH (Annex XIV) List of substances subject to authorisation : not applicable
 - **REACH (Annex XVII)** Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles: **not applicable**

15.2 Chemical safety assessment

Satisfying neither the classification criteria for health and the environment, or the criteria for PBT or vPvB in accordance with Article 14 (3) of the REACH Regulation, specific exposure scenarios have not been developed.

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Section 16. OTHER INFORMATION

16.1 SDS update

Revision date: Januray 2023 - Revision index: 4

Nature of change:

SDS:	sections that have been updated	Туре
1.2	Uses	Use reserved for industrialists and professionals
6.2	Precautions for environmental protection	Protection Supplements
9.1	Information of basic physical and chemical	Add flammability
	properties	
10.4	Stability and responsiveness	Additional information on conditions to be avoided
11.1	Information on toxicological effects	New results
12	Ecological information	Add
15.1	Regulatory Information	Regulation

16.2 Abbreviations and acronyms

VLE: Threshold Limit Value, maximum concentration that can be achieved for up to 15 minutes, in the workplace

VME: exposure, maximum permissible average concentration of 8 hours, 40 hours per week in the workplace

TLV: Threshold Limit Value

TWA: Time Weighted Average, average concentration not to exceed a period of 6 hours 40 hours per week

DNEL: Derived No Effect Level (Derived No Effect)

PNEC: Predicted No Effect Concentration NOAEL: No Observed Adverse Effect Level LOAEL: Lowest Observed Adverse Effect Level

LD50: Lethal Dose 50 = ingested or injected dose killing 50% of the tested population

LC50: Lethal Concentration 50 = concentration causing the death of 50% of the test population

CSTL: Cardiac Sensitisation Threshold Limit

STOT: Specific Target Organ Toxicity GWP: Global Warming Potential ODP: Ozone Destruction Potential PBT: Persistent, Bioaccumulative, Toxic vPvB: very Persistent and very Bioaccumulative

ADR: European Agreement concerns the International Carriage of Dangerous Goods by Road

RID: Regulations concerning the international carriage of dangerous goods by rail

ADN: European Agreement concerning the International Carriage of Goods by Inland Waterways

IMDG: International Maritime Dangerous Goods code

IATA: International Air Transport Association

16.3 Full text of relevant H-Statements

H302: Harmful if swallowed.

H373: May cause damage to organs through prolonged or repeated exposure.

NOTE: In case of formulations or mixtures, make sure that no new dangers can arise.

The information given in this sheet are given in good faith and based on our knowledge of the product, at the date of publication.

The user's attention is drawn to the risks incurred when a product is used for purposes other than those for which it is intended. This sheet shall only be used and reproduced for prevention and security. The list of laws, regulations and administrative cannot be considered exhaustive. It is the recipient of the product to refer to all official documents concerning the use, possession and handling of the product for which it is responsible.

The user must also bring to the attention of those who may come into contact with the product (usage, storage containers, and other processes) all information necessary to safety, protection of health and environment, by providing them with the safety data sheet.

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ANNEXE SCENARIOS D'EXPOSITION

(in accordance with Annex II of Regulation (EC) No 1907/2006 (REACH) and its amendments)

MEG

REACH Main									
No.	Short title	Auth. No.:/ REACH AuthAp pC. No.	Main User Grou p (SU)	Sector of Use (SU)	Product Category (PC)	Process Categor y (PROC)	Environmen t al Release Category (ERC)	Article Categ ory (AC)	Specified
1	Use as an intermediate	NA	3	NA	NA	1, 2, 3, 4, 8a, 8b, 9, 15	6a	NA	ES5
2	Distribution of substance	NA	3	NA	NA	1, 2, 3, 4, 8a, 8b, 9, 15	1	NA	ES10
3	Formulation & (re)packing of substances and mixtures	NA	3	NA	NA	1, 2, 3, 4, 5, 8a, 8b, 9, 14, 15	2	NA	ES12
4	Polymer production	NA	3	NA	NA	1, 2, 3, 4, 5, 6, 8a, 8b, 9, 15	6c	NA	ES262
5	Production of rigid foam	NA	21	NA	32	NA	8f	NA	ES43
6	Use in coatings	NA	3	NA	NA	1, 2, 3, 4, 5, 7, 8a, 8b, 10, 13, 15	4	NA	ES16
7	Use in coatings	NA	21	NA	9a, 15, 18, 31	NA	8d	NA	ES148
8	Use in coatings/adhesives/se alants/foams/polymer processing	NA	22	NA	NA	1, 2, 3, 4, 5, 8a, 8b, 9, 10, 11, 13, 14, 15, 19	8d	NA	ES18
9	Use in adhesives and sealants	NA	21	NA	1	NA	8c	NA	ES31
10	Use in cleaning agents	NA	3	NA	NA	1, 2, 3, 4, 7, 8a, 8b, 10, 13	4	NA	ES35
11	Use in cleaning agents	NA	22	NA	NA	1, 2, 3, 4, 8a, 8b, 10, 11, 13	8a	NA	ES38
12	Use in agrochemicals	NA	22	NA	NA	1, 2, 4, 8a, 8b, 9, 11, 13	8d	NA	ES236
13	Use as lubricants	NA	3	NA	NA	1, 2, 3, 4, 7, 8a, 8b, 9, 10, 13, 17, 18	4	NA	ES108
14	Use as Functional Fluids	NA	3	NA	NA	1, 2, 3, 4, 8a, 8b, 9	7	NA	ES241
15	Use as Functional Fluids	NA	22	NA	NA	1, 2, 3, 8a, 9, 20	9b	NA	ES243
16	Use in heat transfer and hydraulic fluids	NA	21	NA	16, 17	NA	9b	NA	ES266

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AS	CAGEL MEG C	CONCE	NTRA	ATES I	BITREX				
17	Use in laboratories	NA	3	NA	NA	15	2, 4	NA	ES116
18	Use in laboratories	NA	22	NA	NA	15	8a	NA	ES118
19	Use in metal working fluids / rolling oils	NA	3	NA	NA	1, 2, 3, 4, 5, 7, 8a, 8b, 9, 10, 13, 17	4	NA	ES111
20	Use in metal working fluids / rolling oils	NA	22	NA	NA	1, 2, 3, 5, 8a, 8b, 9, 10, 11, 13, 17	8a	NA	ES128
21	Use as water treatment chemicals	NA	3	NA	NA	1, 2, 3, 4, 8a, 8b, 13	3	NA	ES120
22	Use as a process chemical	NA	3	NA	NA	1, 2, 3, 4, 5, 8a, 8b, 9, 13, 14, 15	4	NA	ES143
23	Polymer production use in foams, in coatings, in adhesives, in sealants.	NA	3	NA	NA	1, 2, 3, 4, 5, 7, 8a, 8b, 9, 10, 13, 14, 15	6c	NA	ES37

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ASCAGEL MEG CO	NCENTRATES BIT	REX				
1. Short title of Exposure So	enario 1: Use as an inter	mediate				
Main User Groups	SU 3: Industrial uses: Uses of substances as such or in preparations at industries					
Process categories	PROC1: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions PROC2: Use in closed, continuous process with occasional controlled exposure PROC3: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition 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	ERC6a: Industrial use resuintermediates)	ılting in manufacture of another substance (use of				
Activity	Use of substance as an intermediate (not related to Strictly Controlled Conditions) Includes recycling/ recovery, material transfers, storage, sampling, associated laboratory activities, maintenance and loading (including marine vessel/barge, road/rail car and bulk container).					
2.1 Contributing scenario co	ontrolling environmental	exposure for: ERC6a				
Product characteristics	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 %.				
	Fraction of EU tonnage used in region:	1				
Amount used	Fraction used at the main local source.	0,015				
	Maximum daily site tonnage (kg/day):	50000 kg				
Frequency and duration of use	Continuous exposure	300 days/year, Continuous release				
Environment factors not	Other data. Other information	Local freshwater dilution factor: 10				
influenced by risk management	Other data. Other information	Local marine water dilution factor: 100				
	Emission or Release Factor: Air	0,002 %				
	initial release prior to RMM	ļ, .				
Other given operational conditions affecting	Emission or Release Factor: Water	1 %				
environmental exposure	initial release prior to RMM	, ·				
	Emission or Release Factor: Soil	0,1 %				
	initial release prior to RMM	l, Regional only.				
Technical conditions and measures at process level to	Air	No air emission controls required; required removal efficiency is 0%.				
prevent release Technical onsite conditions and measures to reduce or limit discharges, air emissions and	Water	Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of (%): (Degradation effectiveness: 87 %)				

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releases to soil Organizational measures to	Common practices vary across sites thus conservative process release
	estimates used.
prevent/limit release from the site	

2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC9, PROC15

PROC8a, PROC8b, PROC9, PROC15						
Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 %.					
Physical Form (at time of use)	Liquid, low fugacity					
n.a. in tier 1 TRA MODEL						
Exposure duration per day	< 8 h					
Frequency of use	< 240 days/year					
Exposed skin area	Palm of one Hand 240 cm² (PROC1, PROC3, PROC15)					
Exposed skin area	Palms of both hands 480 cm² (PROC2, PROC4, PROC8b, PROC9)					
Exposed skin area	Two hands 960 cm ² (PROC8a)					
Indoor use						
Provide extraction ventilation at points where emissions occur. (Efficiency: 90 %)(PROC8a)						
If no LEV: Wear respiratory protection(PROC8a)						
	Concentration of the Substance in Mixture/Article Physical Form (at time of use) n.a. in tier 1 TRA MODEL Exposure duration per day Frequency of use Exposed skin area Exposed skin area Exposed skin area Indoor use Provide extraction ventilation (PROC8a) If no LEV:					

3. Exposure estimation and reference to its source

Environment

ECETOC TRA worker v3. ESVOC spERC 6.1a.v1 has been used to evaluate the exposure for the environment.

Workers

PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC9, PROC15: ECETOC TRA Version 2 with modifications has been used

Contributing Scenario	Specific conditions	Exposure routes	Level of Exposure	RCR
PROC1		Worker - inhalative, long-term - local and systemic.	0,03mg/m3	0,0007
PROC1, PROC3, PROC15		Worker - dermal, long- term - systemic	0,34mg/kg bw/day	0,003
PROC2, PROC8a		Worker - inhalative, long-term - local and systemic.	2,59mg/m³	0,07
PROC2		Worker - dermal, long- term - systemic	1,37mg/kg bw/day	0,01
PROC3		Worker - inhalative, long-term - local and systemic.	7,76mg/m³	0,22
PROC4, PROC8b, PROC9, PROC15		Worker - inhalative, long- term - local and systemic.	12,94mg/m³	0,37
PROC4,		Worker - dermal, long-	6,86mg/kg bw/day	0,06

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ASCAGEL	MEG CONCENT	RATES BITREX		
PROC8b,		term - systemic		
PROC8a		Worker - dermal, long- term - systemic	13,71mg/kg bw/day	0,13
4. Guidance t Exposure		evaluate whether he wor	ks inside the bounda	aries set by the
be necessary t Further details industries-librar Health Please note the For further info	o define appropriate site-spe on scaling and control techn ries.html). at modified version has beer rmation on the assessment	conditions which may not be ecific risk management meas tologies are provided in SpE used (see exposure estima method, see: http://www.ece	sures. RC factsheet (http://cefic tes). toc.org/tra	
Additional good	practice advice beyond th	ne REACH Chemical Safety	/ Assessment	

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ASCAGEL MEG CONCENTRATES BITREX 1. Short title of Exposure Scenario 2: Distribution of substance SU 3: Industrial uses: Uses of substances as such or in preparations at industrial Main User Groups PROC1: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions PROC2: Use in closed, continuous process with occasional controlled exposure PROC3: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition PROC4: Use in batch and other process (synthesis) where opportunity for Process categories 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 ERC1: Manufacture of substances Categories Loading (including marine vessel/barge, rail/road car and IBC loading) and Activity repacking (including drums and small packs) of substance, including its sampling, storage, unloading distribution and associated laboratory activities. 2.1 Contributing scenario controlling environmental exposure for: ERC1 Concentration of the Covers percentage substance in the product up to Substance in Product characteristics 100 %. Mixture/Article Fraction of EU tonnage used in region: Fraction used at the main 0,002 Amount used local source. Maximum daily site 6667 ka tonnage (kg/day): Frequency and duration of use Continuous exposure 300 days/year, Continuous release Other data, Other Local freshwater dilution factor: 10 information Environment factors not influenced by risk management Other data, Other Local marine water dilution factor: 100 information **Emission or Release** 0.001 % Factor: Air initial release prior to RMM, Emission or Release Other given operational 0,001 % Factor: Water conditions affecting environmental exposure initial release prior to RMM, **Emission or Release** 0,001 % Factor: Soil initial release prior to RMM, Regional only. Technical conditions and No air emission controls required; required removal Air measures at process level to efficiency is 0%. prevent release Treat onsite wastewater (prior to receiving water Technical onsite conditions and discharge) to provide the required removal Water measures to reduce or limit efficiency of (%): (Degradation effectiveness: 87 %) discharges, air emissions and Common practices vary across sites thus conservative process release releases to soil

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Organizational measures to prevent/limit release from the site estimates used.

2.2 Contributing scenario controlling worker exposure for: PROC1_PROC3

2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC9, PROC15

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, low fugacity	
Amount used	n.a. in tier 1 TRA MODEL		
Frequency and duration of use	Exposure duration per day	< 8 h	
	Frequency of use	240 days/year	
	Exposed skin area	Palm of one Hand 240 cm² (PROC1, PROC3, PROC15)	
Human factors not influenced by risk management	Exposed skin area	Palms of both hands 480 cm² (PROC2, PROC4, PROC8b, PROC9)	
	Exposed skin area	Two hands 960 cm ² (PROC8a)	
Other operational conditions	Indoor use		
affecting workers exposure	Assumes activities are at ambient temperature.		
Technical conditions and measures to control dispersion	Provide extraction ventilation at points where emissions occur. (Efficiency: 90 %)(PROC8a)		
from source towards the worker			
Conditions and measures related to personal protection, hygiene	If no LEV: Wear respiratory protection(PROC8a)		
and health evaluation			

3. Exposure estimation and reference to its source

Environment

ECETOC TRA worker v3. ESVOC spERC 1.1b.v1 has been used to evaluate the exposure for the environment.

Workers

PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC9, PROC15: ECETOC TRA Version 2 with modifications has been used

Contributing Scenario	Specific conditions	Exposure routes	Level of Exposure	RCR
PROC1		Worker - inhalative, long-term - local and systemic.	0,03mg/m3	0,0007
PROC1, PROC3, PROC15		Worker - dermal, long- term - systemic	0,34mg/kg bw/day	0,003
PROC2, PROC8a		Worker - inhalative, long-term - local and systemic.	2,59mg/m³	0,07
PROC2		Worker - dermal, long- term - systemic	1,37mg/kg bw/day	0,01
PROC3		Worker - inhalative, long-term - local and systemic.	7,76mg/m³	0,22
PROC4, PROC8b, PROC9, PROC15		Worker - inhalative, long- term - local and systemic.	12,94mg/m³	0,37
PROC4, PROC8b,		Worker - dermal, long- term - systemic	6,86mg/kg bw/day	0,06

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ASCAGEL	. MEG CONCENT	RATES BITREX		
PROC9				
PROC8a		Worker - dermal, long- term - systemic	13,71mg/kg bw/day	0,13
4. Guidance t Exposure	to Downstream User to e Scenario	valuate whether he work	ks inside the bounda	aries set by the
be necessary further details industries-libra Health	ased on assumed operating control define appropriate site-spens on scaling and control technologies.html). Interpretation on the assessment notes that modified version has been	cific risk management meas ologies are provided in SpEF nethod, see: http://www.eceto	ures. RC factsheet (http://cefic pc.org/tra	
Additional good	d practice advice beyond th	e REACH Chemical Safety	Assessment	

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ASCAGEL MEG CONCENTRATES BITREX 1. Short title of Exposure Scenario 3: Formulation & (re)packing of substances and mixtures SU 3: Industrial uses: Uses of substances as such or in preparations at industrial Main User Groups PROC1: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions PROC2: Use in closed, continuous process with occasional controlled exposure PROC3: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition 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) Process categories 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** ERC2: Formulation of preparations Categories Formulation, packing and re-packing of the substance and its mixtures in batch or continuous operations, including storage, materials transfers, mixing, tabletting, Activity compression, pelletisation, extrusion, large and small scale packing, sampling, maintenance and associated laboratory activities. 2.1 Contributing scenario controlling environmental exposure for: ERC2 Concentration of the Covers percentage substance in the product up to Product characteristics Substance in 100 %. Mixture/Article Fraction of EU tonnage 1 used in region: Fraction used at the main 0.03 Amount used local source. Maximum daily site 100000 kg tonnage (kg/day): Frequency and duration of use Continuous exposure 300 days/year, Continuous release Other data. Other Local freshwater dilution factor: 10 information Environment factors not influenced by risk management Other data, Other Local marine water dilution factor: 100 information **Emission or Release** 0,5 % Factor: Air initial release prior to RMM, **Emission or Release** Other given operational 0.5 % Factor: Water conditions affecting environmental exposure initial release prior to RMM, Emission or Release 0.01% Factor: Soil initial release prior to RMM, Regional only. Technical conditions and Air No air emission controls required; required removal measures at process level to

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prevent release		efficiency is 0%.
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	Water	Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of (%): (Degradation effectiveness: 87 %)
Organizational measures to	Common practices vary across sites thus conservative process release estimates used.	

2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC9, PROC14, PROC15

111000,1110000,111000	55,1 K555,1 K5514		
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, low fugacity	
Amount used	n.a. in tier 1 TRA MODEL		
Frequency and duration of use	Exposure duration per day < 8 h		
	Frequency of use	240 days/year	
Human factors not influenced by risk management	Exposed skin area	Palm of one Hand 240 cm² (PROC1, PROC3, PROC15)	
	Exposed skin area	Palms of both hands 480 cm² (PROC2, PROC4, PROC5, PROC8b, PROC9, PROC14)	
	Exposed skin area	Two hands 960 cm ² (PROC8a)	
Other operational conditions	Indoor use		
affecting workers exposure	Assumes activities are at a	mbient temperature.	
Technical conditions and measures to control dispersion	Provide extraction ventilation at points where emissions occur. (Efficiency: 90 %)(PROC8a)		
from source towards the worker			
Conditions and measures related to personal protection, hygiene	If no LEV: Wear respiratory protection(PROC8a)		
and health evaluation	Wear chemically resistant gloves (tested to EN374) in combination with specific activity training. (Efficiency: 90 %)(PROC5)		

3. Exposure estimation and reference to its source

Environment

ECETOC TRA worker v3. ESVOC spERC 2.2.v1 has been used to evaluate the exposure for the environment.

Workers

PROC1, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC9, PROC14, PROC15: ECETOC TRA Version 2 with modifications has been used

Contributing Scenario	Specific conditions	Exposure routes	Level of Exposure	RCR
PROC1		Worker - inhalative, long-term - local and systemic.	0,03mg/m3	0,0007
PROC1, PROC3, PROC15		Worker - dermal, long- term - systemic	0,34mg/kg bw/day	0,003
PROC2, PROC8a		Worker - inhalative, longterm - local and systemic.	2,59mg/m³	0,07
PROC2, PROC5		Worker - dermal, long- term - systemic	1,37mg/kg bw/day	0,01
PROC3		Worker - inhalative, longterm - local and systemic.	7,76mg/m³	0,22

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ASCAGEL	ASCAGEL MEG CONCENTRATES BITREX			
PROC4, PROC5, PROC8b, PROC9, PROC14, PROC15		Worker - inhalative, long- term - local and systemic.	12,94mg/m³	0,37
PROC4, PROC8b, PROC9		Worker - dermal, long- term - systemic	6,86mg/kg bw/day	0,06
PROC8a		Worker - dermal, long- term - systemic	13,71mg/kg bw/day	0,13
PROC14		Worker - dermal, long- term - systemic	3,43mg/kg bw/day	0,03

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.

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

Health

For further information on the assessment method, see: http://www.ecetoc.org/tra Please note that modified version has been used (see exposure estimates).

Additional good practice advice beyond the REACH Chemical Safety Assessment

Additional good practice during beyond the Nazion Chemical Calcul, Additional Calculation
Use suitable eye protection.

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ASCAGEL MEG CONCENTRATES BITREX 1. Short title of Exposure Scenario 4: Polymer production SU 3: Industrial uses: Uses of substances as such or in preparations at industrial Main User Groups PROC1: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions PROC2: Use in closed, continuous process with occasional controlled exposure PROC3: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises PROC5: Mixing or blending in batch processes for formulation of preparations Process categories 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) PROC15: Use as laboratory reagent **Environmental Release** ERC6c: Industrial use of monomers for manufacture of thermoplastics Categories 2.1 Contributing scenario controlling environmental exposure for: ERC6c Concentration of the Covers percentage substance in the product up to Product characteristics Substance in 100 %. Mixture/Article Fraction of EU tonnage used in region: Fraction used at the main 0,015 Amount used local source. Maximum daily site 50000 kg tonnage (kg/day): Frequency and duration of use Continuous exposure 300 days/year, Continuous release Other data. Other Local freshwater dilution factor: 10 information Environment factors not influenced by risk management Other data, Other Local marine water dilution factor: 100 information Emission or Release 0.2 % Factor: Air initial release prior to RMM, Emission or Release Other given operational 1 % Factor: Water conditions affecting environmental exposure initial release prior to RMM. . **Emission or Release** 0,01 % Factor: Soil initial release prior to RMM, Regional only. Technical conditions and No air emission controls required; required removal Air measures at process level to efficiency is 0%. prevent release Treat onsite wastewater (prior to receiving water Technical onsite conditions and Water discharge) to provide the required removal measures to reduce or limit efficiency of (%): (Degradation effectiveness: 87 %) discharges, air emissions and Common practices vary across sites thus conservative process release releases to soil

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Organizational measures to estimates used.

prevent/limit release from the site

2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC3, PROC4, PROC5, PROC6, PROC8a, PROC8b, PROC9, PROC15

Product characteristics	Concentration of the Substance in Mixture/Article Physical Form (at time of use)	Covers percentage substance in the product up to 100 %. Liquid, low fugacity	
Amount used	n.a. in tier 1 TRA MODEL		
Frequency and duration of use	Exposure duration per day	< 8 h	
	Frequency of use	240 days/year	
Human factors not influenced by risk management	Exposed skin area	Palm of one Hand 240 cm² (PROC1, PROC3, PROC15)	
	Exposed skin area	Palms of both hands 480 cm² (PROC2, PROC4, PROC5, PROC8b, PROC9)	
	Exposed skin area	Two hands 960 cm² (PROC6, PROC8a)	
Other operational conditions	Indoor use		
affecting workers exposure	Assumes activities are at a	mbient temperature.	
Technical conditions and measures to control dispersion	Provide extraction ventilation at points where emissions occur. (Efficiency: 90 %)(PROC8a)		
from source towards the worker			
Conditions and measures related	Wear chemically resistant gloves (tested to EN374) in combination with specific activity training. (Efficiency: 90 %)(PROC5)		
to personal protection, hygiene	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Efficiency: 90 %)(PROC6)		
and health evaluation	If no LEV: Wear respiratory protection(PROC8a)		

3. Exposure estimation and reference to its source

Environment

ECETOC TRA worker v3. ESVOC spERC 4.20 v1 has been used to evaluate the exposure for the environment.

Workers

PROC1, PROC2, PROC3, PROC4, PROC5, PROC6, PROC8a, PROC8b, PROC9, PROC15: ECETOC TRA Version 2 with modifications has been used

Contributing Scenario	Specific conditions	Exposure routes	Level of Exposure	RCR
PROC1		Worker - inhalative, long-term - local and systemic.	0,03mg/m3	0,0007
PROC1, PROC3, PROC15		Worker - dermal, long- term - systemic	0,34mg/kg bw/day	0,003
PROC2, PROC8a		Worker - inhalative, long-term - local and systemic.	2,59mg/m³	0,07
PROC2, PROC5		Worker - dermal, long- term - systemic	1,37mg/kg bw/day	0,01
PROC3		Worker - inhalative, long-term - local and systemic.	7,76mg/m³	0,22
PROC4, PROC5, PROC6, PROC8b,		Worker - inhalative, long-term - local and systemic.	12,94mg/m³	0,37

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ROC9, ROC15 ROC4, ROC8b, Worker - dermal, long-term - systemic 6,86mg/kg bw/day 0,06 ROC6 Worker - dermal, long-term - systemic 2,74mg/kg bw/day 0,03 ROC8a Worker - dermal, long-term - systemic 13,71mg/kg bw/day 0,13 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. Further details on scaling and control technologies are provided in SpErc factsheet (http://cefic.org/en/reach-fc.industries-libranes.html). Health — For further information on the assessment method, see: http://www.ecetoc.org/tra Please note that modified version has been used (see exposure estimates). Additional good practice advice beyond the REACH Chemical Safety Assessment Use suitable eye protection.	4SCAGEL	MEG CONCE	NTRATES BITREX		
ROC15 ROC4, ROC8b, ROC9 ROC6 ROC6 ROC6 ROC6 ROC6 ROC6 ROC6 ROC6	100/1022	20 001102			
ROC8b, ROC9 ROC6 Worker - dermal, long-term - systemic 13,71mg/kg bw/day 0,03 Description - dermal, long-term - systemic Industries - systemic Environment 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. Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-foindustries-libraries.html). Health For further information on the assessment method, see: http://www.ecetoc.org/tra Please note that modified version has been used (see exposure estimates). Additional good practice advice beyond the REACH Chemical Safety Assessment					
term - systemic ROC8a Worker - dermal, long-term - systemic 13,71mg/kg bw/day 1,371mg/kg bw/day 1,37	ROC8b,			6,86mg/kg bw/day	0,06
term - systemic Iterm - systemic Itera - syste	ROC6			2,74mg/kg bw/day	0,03
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. Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-for industries-libraries.html). Health For further information on the assessment method, see: http://www.ecetoc.org/tra Please note that modified version has been used (see exposure estimates). Additional good practice advice beyond the REACH Chemical Safety Assessment	ROC8a			13,71mg/kg bw/day	0,13
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-for industries-libraries.html). Health			er to evaluate whether he wo	orks inside the bound	aries set by the
	Further details industries-librar Health For further info Please note tha	on scaling and control ries.html). rmation on the assess at modified version has	technologies are provided in Spl ment method, see: http://www.ec s been used (see exposure estim	ERC factsheet (http://cefi etoc.org/tra ates).	c.org/en/reach-for

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1. Short title of Exposure Sc	enario 5: Production of r	igid foam	
Main User Groups	SU 21: Consumer uses: Pr	ivate households (= general public = consumers)	
Chemical product category	PC32: Polymer preparation	ns and compounds	
Environmental Release Categories	ERC8f: Wide dispersive ou	tdoor use resulting in inclusion into or onto a matrix	
2.1 Contributing scenario co	ntrolling environmental	exposure for: ERC8f	
Product characteristics	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 5%.	
	Fraction of EU tonnage used in region:	0,1	
Amount used	Fraction used at the main local source.	0,002	
	Maximum daily site tonnage (kg/day):	5479 kg	
Frequency and duration of use	Continuous exposure	365 days/year, Wide dispersive use	
Environment factors not	Other data.Other information	Local freshwater dilution factor: 10	
influenced by risk management	Other data.Other information	Local marine water dilution factor: 100	
	Emission or Release Factor: Air	15 %	
	initial release prior to RMM, .		
Other given operational conditions affecting	Emission or Release Factor: Water	1 %	
environmental exposure	initial release prior to RMM	, .	
	Emission or Release Factor: Soil	0,5 %	
	initial release prior to RMM	, Regional only.	
Technical conditions and measures at process level to	Air	No air emission controls required; required removal efficiency is 0%.	
prevent release Technical onsite conditions and measures to reduce or limit discharges, air emissions and	Water	Estimated substance removal from wastewater via domestic sewage treatment (%): (Degradation effectiveness: 87 %)	
releases to soil Organizational measures to prevent/limit release from the site			
2.2 Contributing scenario co	ntrolling consumer expo	osure for: PC32	
Product characteristics	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 5%.	
	Physical Form (at time of use)	liquid	
Amount used	Amount used per event	0,825 kg	
Frequency and duration of use	Exposure duration	30 min	
Human factors not influenced by risk management	Exposed skin area	Hands and forearms. 1900 cm ²	
Other given operational	Indoor use		
conditions affecting consumers	Room size	57,5 m3	
exposure	Temperature	25 °C	

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Ventilation rate per hour 1,5

Covers use under typical household ventilation.

3. Exposure estimation and reference to its source

Environment

ECETOC TRA worker v3.

Consumers

PC32: ConsExpo 4.1

1 002. OdiloLApo 4.1					
Contributing Scenario	Specific conditions	Exposure routes	Level of Exposure	RCR	
PC32		Consumer - inhalative, long-term - systemic	0,06mg/m³	0,009	
PC32		Consumer - dermal, long- term - systemic	0,007mg/kg bw/day	0,008	

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.

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

Health

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ASCAGEL MEG CO	NCENTRATES BIT	REX	
1. Short title of Exposure So	enario 6: Use in coatings		
Main User Groups	SU 3: Industrial uses: Uses sites	s of substances as such or in preparations at industrial	
Process categories	exposure or processes with PROC2: Use in closed, cor PROC3: Manufacture or fo processes with occasional containment condition PROC4: Use in batch and exposure arises PROC5: Mixing or blending and articles (multistage and PROC7: Industrial spraying PROC8a: Transfer of subsivessels/ large containers at	tance or preparation (charging/ discharging) from/ to the non-dedicated facilities tance or preparation (charging/ discharging) from/ to the dedicated facilities or brushing cles by dipping and pouring	
Environmental Release Categories	ERC4: Industrial use of processing aids in processes and products, not becoming part of articles		
Activity	Covers the use in coatings (paints, inks, adhesives, etc) including exposures during use (including materials receipt, storage, preparation and transfer from bulk and semi-bulk, application by spray, roller, spreader, dip, flow, fluidised bed on production lines and film formation) and equipment cleaning, maintenance and associated laboratory activities.		
2.1 Contributing scenario co	ontrolling environmental	exposure for: ERC4	
Product characteristics	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 %.	
	Fraction of EU tonnage used in region:	1	
Amount used	Fraction used at the main local source.	1	
	Maximum daily site tonnage (kg/day):	39945 kg	
Frequency and duration of use	Continuous exposure	220 days/year, Continuous release	
Environment factors not	Other data. Other information	Local freshwater dilution factor: 10	
influenced by risk management	Other data. Other information	Local marine water dilution factor: 100	
	Emission or Release Factor: Air		
	initial release prior to RMM, .		
Other given operational conditions affecting	Emission or Release Factor: Water	2 %	
environmental exposure	initial release prior to RMM	, .	
	Emission or Release Factor: Soil	0 %	
	initial release prior to RMM, Regional only.		
Technical conditions and measures at process level to	Air	Treat air emission to provide a typical removal	

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prevent release		efficiency of (%): (Efficiency: 95 %)	
Fechnical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	Water	Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of (%): (Degradation effectiveness: 87 %)	
Organizational measures to prevent/limit release from the site	Common practices vary ac estimates used.	cross sites thus conservative process release	
Conditions and measures related to external treatment of waste for disposal	Waste treatment	Wet scrubber for elimination of volatile component from waste gases, or, Filtration aids	
2.2 Contributing scenario co PROC5, PROC7, PROC8a		re for: PROC1, PROC2, PROC3, PROC4, OC13, PROC15	
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	
		600 mL/min (PROC7)	
Amount used	Regular inspection and ma	intenance of equipment and machines.(PROC7)	
	Exposure duration per day	< 8 h(except PROC7)	
Eraguanay and duration of usa	Frequency of use	240 days/year(except PROC7)	
Frequency and duration of use	Exposure duration per day	< 6 h(Critical for: PROC7)	
	Frequency of use	4 - 5 days/week(Critical for: PROC7)	
	Exposed skin area	Palm of one Hand 240 cm² (PROC1, PROC3, PROC15)	
Human factors not influenced by risk management	Exposed skin area	Palms of both hands 480 cm² (PROC2, PROC4, PROC5, PROC8b, PROC13)	
	Exposed skin area	Whole body (PROC7)	
	Exposed skin area	Two hands 960 cm ² (PROC8a, PROC10)	
Other operational conditions	Indoor use		
affecting workers exposure	Assumes activities are at a	·	
	Room size	1000 m3(PROC7)	
Technical conditions and measures to control dispersion	%)(PROC8a)	on at points where emissions occur. (Efficiency: 90	
from source towards the worker	Provide extraction ventilation at points where emissions occur. (Efficiency: 50 %)(PROC7)		
Organisational measures to prevent /limit releases, dispersion and exposure	Ensure that the task is being carried out outside the breathing zone of a worker (distance head-product greater than 1m). Ensure that the task is not carried out overhead. Regular inspection and maintenance of equipment and machines.		
	Clean equipment and the	work area every day.(PROC7)	
	Wear chemically resistant gloves (tested to EN374) in combination with specific activity training. (Efficiency: 90 %)(PROC5)		
Conditions and measures related	If no LEV: Wear respiratory protection(PROC8a)		
to personal protection, hygiene and health evaluation	Wear respiratory protection(FROCoa) Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Efficiency: 90 %)(PROC7, PROC10, PROC13)		
	Wear suitable coveralls to prevent exposure to the skin. (Efficiency: 80 %)(PROC7)		

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Environment

ECETOC TRA worker v3. CEPE spERC 4.1b.v1 has been used to evaluate the exposure for the environment.

Workers

PROC7: RISKOFDERM

PROC7: StoffenManager (inhalation exposure)

PROC1, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC10, PROC13, PROC15: ECETOC TRA

Version 2 with modifications has been used

Contributing Scenario	Specific conditions	Exposure routes	Level of Exposure	RCR
PROC1		Worker - inhalative, long-term - local and systemic.	0,03mg/m3	0,0007
PROC1, PROC3, PROC15		Worker - dermal, long- term - systemic	0,34mg/kg bw/day	0,003
PROC2, PROC8a		Worker - inhalative, long-term - local and systemic.	2,59mg/m³	0,07
PROC2, PROC5, PROC13		Worker - dermal, long- term - systemic	1,37mg/kg bw/day	0,01
PROC3		Worker - inhalative, long-term - local and systemic.	7,76mg/m³	0,22
PROC4, PROC5, PROC8b, PROC15		Worker - inhalative, long-term - local and systemic.	12,94mg/m³	0,37
PROC4, PROC8b		Worker - dermal, long- term - systemic	6,86mg/kg bw/day	0,06
PROC7		Worker - inhalative, long-term - local and systemic.	9,79mg/m³	0,28
PROC7		Worker - dermal, long- term - systemic	54,6mg/m3	0,52
PROC8a		Worker - dermal, long- term - systemic	13,71mg/kg bw/day	0,13
PROC10, PROC13		Worker - inhalative, long-term - local and systemic.	25,87mg/m³	0,74
PROC10		Worker - dermal, long- term - systemic	2,74mg/kg bw/day	0,03

The exposure estimate represents the 75th percentile of the exposure distibution. PROC7.

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

Exposure oceriano

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

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

Please note that modified version has been used (see exposure estimates).

Scaling for PROC7 (dermal) http://www.eurofins.com/riskofderm.aspx

Scaling for PROC7 (inhalation) https://www.stoffenmanager.nl/default.aspx

Additional good practice advice beyond the REACH Chemical Safety Assessment

Use suitable eye protection.

Environment

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1. Short title of Exposure Sco	enario 7: Use in coatings			
Main User Groups	SU 21: Consumer uses: Pr	ivate households (= general public = consumers)		
Chemical product category	PC9a: Coatings and paints, thinners, paint removers PC15: Non-metal-surface treatment products PC18: Ink and toners PC31: Polishes and wax blends			
Environmental Release Categories	ERC8d: Wide dispersive of	utdoor use of processing aids in open systems		
Activity		(paints, inks, adhesives, etc) including exposures ct transfer and preparation, application by brush, spray) and equipment cleaning.		
2.1 Contributing scenario co	ntrolling environmental	exposure for: ERC8d		
	Fraction of EU tonnage used in region:	0,1		
Amount used	Fraction used at the main local source.	0,002		
	Maximum daily site tonnage (kg/day):	5479 kg		
Frequency and duration of use	Continuous exposure	365 days/year, Continuous process		
Environment factors not	Other data.Other information	Local freshwater dilution factor: 10		
influenced by risk management	Other data.Other information	Local marine water dilution factor: 100		
	Emission or Release Factor: Air	98 %		
	initial release prior to RMM, .			
Other given operational conditions affecting	Emission or Release Factor: Water	2 %		
environmental exposure	initial release prior to RMM, .			
	Emission or Release Factor: Soil	0 %		
-	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: 95 %)		
Technical onsite conditions and measures to reduce or limit discharges, air emissions and	Water	Estimated substance removal from wastewater via domestic sewage treatment (%): (Degradation effectiveness: 87 %)		
releases to soil Organizational measures to prevent/limit release from the site				
2.2 Contributing scenario co Waterborne wall paint	ntrolling consumer expo	osure for: PC9a: Waterborne wall paint, PC15:		
This contributing scenario is in	tended to represent a reas	onable worst-case scenario		
Product characteristics	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 5%.		
	Physical Form (at time of use)	liquid		
Amount used		1,25 kg		
	Frequency and duration of use Application duration 120 min			

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	Non spray applications		
	Exposure duration per	132 min	
	day		
	Frequency of use	1 days/year	
Human factors not influenced by risk management	Exposed skin area	Hands and forearms. 1900 cm ²	
nok management	Indoor use		
	Room size	20 m3	
Other given operational	Temperature	25 °C	
conditions affecting consumers	Ventilation rate per hour	0,6	
exposure	Mass transfer rate	0,331 m/min	
	Release area	10 m2	
	Release duration	7200 sec	
2.3 Contributing scenario co	ntrolling consumer expe	osure for: PC9a: Aerosol spray can, PC15:	
Aerosol spray can			
	Concentration of the Substance in	Covers percentage substance in the product up to 5%.	
Product characteristics	Mixture/Article	1	
	Physical Form (at time of use)	liquid	
	Spray Duration	15 min	
Frequency and duration of use	Exposure duration per day	15 min	
	Frequency of use	2 days/year	
Human factors not influenced by	Exposed skin area	Hands and forearms. 1900 cm ²	
risk management	Indoor use		
Other siver as a setional	Room size	34 m3	
Other given operational conditions affecting consumers	Temperature	25 °C	
exposure	Ventilation rate per hour	1,5	
	Release duration	900 sec	
Conditions and measures related		Ensure spraying away from persons.	
to protection of consumer (e.g.	Consumer Measures		
behavioural advice, personal protection and hygiene)			
	ntrolling consumer expo	osure for: PC18: Refilling of toners	
	Concentration of the	1	
Product characteristics	Substance in Mixture/Article	Covers percentage substance in the product up to 5%.	
	Physical Form (at time of use)	liquid	
Amount used		0,05 kg (PC18)	
	Application duration	0,3 min	
Frequency and duration of use	Exposure duration per day	0,75 min	
	Frequency of use	104 days/year	
Human factors not influenced by risk management	Exposed skin area	Palm of one Hand 215 cm ²	
Other given operational	Indoor use		
conditions affecting consumers	Temperature	25 °C	

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exposure	Ventilation rate per hour	0,5
	Release area	20 cm ²
	Mass transfer rate	0,331 m/min
2.5 Contributing scenario co	ntrolling consumer expo	osure for: PC18: Printing Process
-	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 5%.
Product characteristics	Physical Form (at time of use)	liquid
Amount used		0,016 kg
	Application duration	600 min
Frequency and duration of use	Exposure duration per day	600 min
	Frequency of use	365 days/year
Other short and the	Indoor use	
Other given operational conditions affecting consumers	Room size	25 m3
exposure	Temperature	25 ℃
	Ventilation rate per hour	0,6
2.6 Contributing scenario co furniture, shoes)	ontrolling consumer expe	osure for: PC31: Polishes, wax / cream (floor
Product characteristics	Concentration of the Substance in Mixture/Article	Concentration of substance in product : 0% - 2,5%
Toduct characteristics	Physical Form (at time of use)	liquid
Amount used	Amount used per event	0,55 kg
	Application duration	900 min
	Non spray applications	
Frequency and duration of use	Exposure duration per day	240 min
	Frequency of use	1 days/year
Human factors not influenced by	Exposed skin area	Palms of both hands 430 cm ²
isk management	Indoor use	
	Room size	58 m3
S.I	Temperature	25 °C
Other given operational conditions affecting consumers	Ventilation rate per hour	0,5
exposure	Release area	22 m2
	Mass transfer rate	4740 m/min
	Release duration	7200 sec
3. Exposure estimation and		
•		
Environment		

Consumers

PC9a: Aerosol spray can, PC15: Aerosol spray can, PC31: Polishes, wax / cream, PC18: Refilling of toners, PC18:

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Contributing	Specific conditions Exposure routes		Level of Exposure	RCR
Scenario				
PC9a: Waterborne wall paint, PC15: Waterborne wall paint		Consumer-inhalative, long-term - local and systemic.	0,72mg/m³	0,1
PC9a: Waterborne wall paint, PC15: Waterborne wall paint		Consumer - dermal, long- term - systemic	2,77mg/kg bw/day	0,05
PC9a: Aerosol spray can, PC15: Aerosol spray can		Consumer-inhalative, long-term - local and systemic.	0,26mg/m³	0,04
PC9a: Aerosol spray can, PC15: Aerosol spray can		Consumer - dermal, long- term - systemic	1,15mg/kg bw/day	0,02
PC9a: Aerosol spray can, PC15: Aerosol spray can		consumer oral, long term - systemic	0,13mg/kg bw/day	< 1
PC18: Refilling of toners		Consumer-inhalative, long-term - local and systemic.		< 1
PC18: Refilling of toners		Consumer - dermal, long- term - systemic	0,008mg/kg bw/day	0,0002
PC18: Printing Process		Consumer-inhalative, long-term - local and systemic.	1,29mg/m³	0,18
PC31: Polishes, wax / cream		Consumer-inhalative, long-term - local and systemic.	3,93mg/m3	0,56
PC31: Polishes, wax / cream		Consumer - dermal, long- term - systemic	2,12mg/kg bw/day	0,04

Relevant for section 2.5: Dermal exposure is not considered to be relevant.

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.

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

Health

The ConsExpo model has been used to estimate consumer exposures unless otherwise indicated.

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ASCAGEL MEG CONCENTRATES BITREX 1. Short title of Exposure Scenario 8: Use in coatings/adhesives/sealants/foams/polymer

Main User Groups	SU 22: Professional uses: entertainment, services, cra	Public domain (administration, education, aftsmen)	
Process categories	PROC1: Chemical product exposure or processes with PROC2: Use in closed, cor PROC3: Manufacture or for processes with occasional containment condition PROC4: Use in batch and exposure arises PROC5: Mixing or blending and articles (multistage and PROC8a: Transfer of substantial subs	ion or refinery in closed process without likelihood of a equivalent containment conditions of intinuous process with occasional controlled exposure or process with exposure or processes with equivalent controlled exposure or processes with equivalent other process (synthesis) where opportunity for g in batch processes for formulation of preparations of the or significant contact) trance or preparation (charging/ discharging) from/ to the thorough the or preparation (charging/ discharging) from/ to the dedicated facilities trance or preparation into small containers (dedicated facilities ance or preparation into small containers (
Environmental Release Categories	ERC8d: Wide dispersive outdoor use of processing aids in open systems		
Activity	Covers the use in coatings (paints, inks, adhesives, etc) including exposures during use (including materials receipt, storage, preparation and transfer from bu and semi-bulk, application by spray, roller, brush, spreader by hand or similar methods, and film formation), and equipment cleaning, maintenance and associated laboratory activities.		
2.1 Contributing scenario co	ontrolling environmental	exposure for: ERC8d	
Product characteristics	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 %.	
	Fraction of EU tonnage used in region:	0,1	
Amount used	Fraction used at the main local source.	0,002	
	Maximum daily site tonnage (kg/day):	5479 kg	
Frequency and duration of use	Continuous exposure	365 days/year, Continuous process	
Environment factors not	Other data. Other information	Local freshwater dilution factor: 10	
influenced by risk management	Other data. Other information	Local marine water dilution factor: 100	
Other given operational	Emission or Release Factor: Air	98 %	
conditions affecting	initial release prior to RMM	, .	
environmental exposure	Emission or Release	2%	

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2 %

Factor: Water



	initial release prior to RMM	1, .	
	Emission or Release Factor: Soil	0 %	
	initial release prior to RMM	I / Regional only	
Technical conditions and	initial rologoo phor to rtiviiv	Treat air emission to provide a typical removal	
measures at process level to prevent release	Air	efficiency of (%): (Efficiency: 95 %)	
Technical onsite conditions and measures to reduce or limit discharges, air emissions and	Water	Estimated substance removal from wastewater via domestic sewage treatment (%): (Degradation effectiveness: 87 %)	
releases to soil Organizational measures to	Common practices vary across sites thus conservative process release estimates used.		
prevent/limit release from the site Conditions and measures related to external treatment of waste for disposal	Waste treatment	Wet scrubber for elimination of volatile components from waste gases, or, Filtration aids	
2.2 Contributing scenario co	b, PROC9, PROC10, PR	ure for: PROC1, PROC2, PROC3, PROC4, OC11, PROC13, PROC14, PROC15, PROC19	
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	
Amount used		50 mL/min (PROC11)	
	Exposure duration per day	< 8 h(except PROC11, PROC19)	
	Exposure duration per day	< 150 min(Critical for: PROC11)	
Frequency and duration of use	Exposure duration per day	< 15 min(Critical for: PROC19)	
	Frequency of use	< 240 days/year(except PROC11)	
	Frequency of use	4 - 5 days/week(Critical for: PROC11)	
	Exposed skin area	Palm of one Hand 240 cm ² (PROC1, PROC3, PROC15)	
Human factors not influenced by	Exposed skin area	Palms of both hands 480 cm ² (PROC2, PROC4, PROC5, PROC8b, PROC9, PROC13, PROC14)	
risk management	Exposed skin area	Two hands 960 cm² (PROC8a, PROC10)	
	Exposed skin area	Hands and forearms. 1980 cm² (PROC19)	
	Exposed skin area	Whole body (PROC11)	
	Indoor use		
Other operational conditions affecting workers exposure	Assumes activities are at a	ambient temperature.	
aneoung workers exposure	Room size	100 - 1000 m3(PROC11)	
Technical conditions and measures to control dispersion	Provide extraction ventilation at points where emissions occur. (Efficiency: 80 %)(PROC8a, PROC10)		
from source towards the worker	Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).(PROC11)		
Organisational measures to prevent /limit releases, dispersion and exposure	Regular inspection and maintenance of equipment and machines. Ensure that the task is not carried out by more than one worker. Ensure that the task is being carried out outside the breathing zone of a worker (distance head-product greater than 1m). Clean equipment and the work area every day. Ensure that the task is not carried out overhead.(PROC11)		
	Ensure that the task is not	carried out overhead.(PROC11)	

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and health evaluation	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Efficiency: 90 %)(PROC10, PROC11, PROC13, PROC19) Wear respiratory protection. (Efficiency: 40 %)(PROC11)
	In case no respiratory protection is used, a LEV with adequate effectiveness is required.(PROC11)
	Wear suitable coveralls to prevent exposure to the skin. (Efficiency: 80 %)(PROC11)

3. Exposure estimation and reference to its source

Environment

ECETOC TRA worker v3. CEPE spERC 8a.n.v1 has been used to evaluate the exposure for the environment.

Workers

PROC11: RISKOFDERM

PROC11: StoffenManager (inhalation exposure)

PROC1, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC9, PROC10, PROC13, PROC14, PROC15, PROC19: ECETOC TRA Version 2 with modifications has been used

Contributing Scenario	Specific conditions	Exposure routes	Level of Exposure	RCR
PROC1		Worker - inhalative, long-term - local and systemic.	0,03mg/m3	0,0007
PROC1, PROC3, PROC15		Worker - dermal, long- term - systemic	0,34mg/kg bw/day	0,003
PROC2, PROC8a, PROC10, PROC15		Worker - inhalative, long-term - local and systemic.	12,94mg/m³	0,37
PROC2, PROC13		Worker - dermal, long- term - systemic	1,37mg/kg bw/day	0,01
PROC3		Worker - inhalative, long-term - local and systemic.	7,76mg/m³	0,22
PROC4, PROC5, PROC8b, PROC9, PROC13, PROC14		Worker - inhalative, long-term - local and systemic.	25,88mg/m³	0,74
PROC4, PROC8b, PROC9		Worker - dermal, long- term - systemic	6,86mg/kg bw/day	0,06
PROC5, PROC8a		Worker - dermal, long- term - systemic	13,71mg/kg bw/day	0,13
PROC10		Worker - dermal, long- term - systemic	2,74mg/kg bw/day	0,03
PROC11		Worker - inhalative, long-term - local and systemic.	14,05mg/m³	0,4
PROC11		Worker - dermal, long- term - systemic	53,75mg/kg bw/day	0,51
PROC14		Worker - dermal, long- term - systemic	3,43mg/kg bw/day	0,03
PROC19		Worker - inhalative, long-term - local and systemic.	6,47mg/m³	0,18
PROC19		Worker - dermal, long- term - systemic	14,14mg/kg bw/day	0,13

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The exposure estimate represents the 75th percentile of the exposure distibution. PROC11.

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.

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

Health

For scaling see: http://www.ecetoc.org/tra with exception for PROC11

Please note that modified version has been used (see exposure estimates).

Scaling for PROC11 (dermal) http://www.eurofins.com/riskofderm.aspx

Scaling for PROC11 (inhalation) https://www.stoffenmanager.nl/default.as

Additional good practice advice beyond the REACH Chemical Safety Assessment

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1. Short title of Exposure Sc	enario 9: Use in adhesive	es and sealants		
Main User Groups	SU 21: Consumer uses: Pr	rivate households (= general public = consumers)		
Chemical product category	PC1: Adhesives, sealants			
Environmental Release Categories	ERC8c: Wide dispersive in	door use resulting in inclusion into or onto a matrix		
2.1 Contributing scenario co	ntrolling environmental	exposure for: ERC8c		
Product characteristics	Concentration of the Substance in Mixture/Article	Covers concentrations up to 0,075%		
	Fraction of EU tonnage used in region:	0,1		
Amount used	Fraction used at the main local source.	0,002		
	Maximum daily site tonnage (kg/day):	5479 kg		
Frequency and duration of use	Continuous exposure	365 days/year, Wide dispersive use		
Environment factors not	Other data.Other information	Local freshwater dilution factor: 10		
influenced by risk management	Other data.Other information	Local marine water dilution factor: 100		
	Emission or Release Factor: Air	15 %		
	initial release prior to RMM, .			
Other given operational conditions affecting	Emission or Release Factor: Water	1 %		
environmental exposure	initial release prior to RMM	initial release prior to RMM, .		
	Emission or Release Factor: Soil	0 %		
	initial release prior to RMM	, Regional only.		
Technical conditions and measures at process level to	Air	No air emission controls required; required removal efficiency is 0%.		
prevent release Technical onsite conditions and measures to reduce or limit discharges, air emissions and	Water	Estimated substance removal from wastewater via domestic sewage treatment (%): (Degradation effectiveness: 87 %)		
releases to soil Organizational measures to prevent/limit release from the site				
2.2 Contributing scenario co	ntrolling consumer expo	osure for: PC1		
Product characteristics	Concentration of the Substance in Mixture/Article	Covers concentrations up to 0,075%		
Froduct characteristics	Physical Form (at time of use)	liquid		
Amount used		9000 g/day		
	Application duration	75 min		
Frequency and duration of use	Exposure duration	75 min		
	Frequency of use	2 hours/year		
Human factors not influenced by risk management	Exposed skin area	Fingers of one hand 110 cm ²		
Other given operational	Indoor use			

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conditions affecting consumers exposure	Room size	58 m3
	Temperature	25 °C
	Ventilation rate per hour	0,5
	Covers use under typical household ventilation.	
	Mass transfer rate	4740 m/min
	Release area	4 m2
	Release duration	4500 sec

3. Exposure estimation and reference to its source

Environment

ECETOC TRA worker v3.

Consumers

PC1: ConsExpo 4.1

Contributing Scenario	Specific conditions	Exposure routes	Level of Exposure	RCR
PC1		Consumer-inhalative, long-term - local and systemic.	4,1mg/m³	0,59
PC1		Consumer - dermal, long- term - systemic	0,26mg/kg bw/day	0,005

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.

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

Health

The ConsExpo model has been used to estimate consumer exposures unless otherwise indicated.

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ASCAGEL MEG CO	NCENTRATES BIT	REX	
1. Short title of Exposure So	enario 10: Use in cleanin	ng agents	
Main User Groups	SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites		
Process categories	PROC1: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions PROC2: Use in closed, continuous process with occasional controlled exposure PROC3: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition 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 pro	ocessing aids in processes and products, not becoming	
Activity	Covers the use as a component of cleaning products including pouring/unloading from drums or containers; and exposures during mixing/diluting in the preparatory phase and cleaning activities (including spraying, brushing, dipping, wiping automated and by hand).		
2.1 Contributing scenario co	ontrolling environmental	exposure for: ERC4	
Product characteristics	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 %.	
	Fraction of EU tonnage used in region:	1	
Amount used	Fraction used at the main local source.	0,000011	
	Maximum daily site tonnage (kg/day):	50 kg	
Frequency and duration of use	Continuous exposure	220 days/year, Continuous release	
Environment factors not	Other data. Other information	Local freshwater dilution factor: 10	
influenced by risk management	Other data. Other information	Local marine water dilution factor: 100	
	Emission or Release Factor: Air	0 %	
	initial release prior to RMM	l, .	
Other given operational conditions affecting	Emission or Release Factor: Water	100 %	
environmental exposure	initial release prior to RMM	, .	
	Emission or Release Factor: Soil	0 %	
	initial release prior to RMM	, Regional only.	
Technical conditions and measures at process level to	Air	No air emission controls required; required removal efficiency is 0%.	
prevent release Technical onsite conditions and measures to reduce or limit discharges, air emissions and	Water	Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of (%): (Degradation effectiveness: 87 %)	

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releases to soil Organizational measures to prevent/limit release from the site	Common practices vary across sites thus conservative process release estimates used.

2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC3, PROC4, PROC7, PROC8a, PROC8b, PROC10, PROC13

PROC7, PROC8a, PROC8	sb, PROC10, PROC13		
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	
Amount used		600 mL/min (PROC7)	
	Exposure duration per day	< 8 h(except PROC7)	
Frequency and duration of use	Exposure duration per day	< 6 h(Critical for: PROC7)	
	Frequency of use	< 240 days/year(except PROC7)	
	Frequency of use	4 - 5 days/week(Critical for: PROC7)	
	Exposed skin area	Palm of one Hand 240 cm² (PROC1, PROC3)	
Human factors not influenced by risk management	Exposed skin area	Palms of both hands 480 cm² (PROC2, PROC4, PROC8b, PROC13)	
	Exposed skin area	Whole body (PROC7)	
	Exposed skin area	Two hands 960 cm ² (PROC8a, PROC10)	
Other and and the second street	Indoor use		
Other operational conditions affecting workers exposure	Assumes activities are at ambient temperature.		
ancoming workers exposure	Room size	1000 m3(PROC7)	
Technical conditions and measures to control dispersion	Provide extraction ventilation at points where emissions occur. (Efficiency: 50 %)(PROC7)		
from source towards the worker	Provide extraction ventilation at points where emissions occur. (Efficiency: 90 %)(PROC8a)		
Organisational measures to prevent /limit releases, dispersion and exposure	Ensure that the task is being carried out outside the breathing zone of a worke (distance head-product greater than 1m). Ensure that the task is not carried out overhead. Ensure control measures are regularly inspected and maintained.		
,	Clean equipment and the work area every day.(PROC7)		
Conditions and measures related	Wear suitable coveralls to prevent exposure to the skin. (Efficiency: 80 %)(PROC7)		
to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Efficiency: 90 %)(PROC7, PROC10, PROC13)		
and nealth evaluation	If no LEV: Wear respiratory protection(PROC8a)		

3. Exposure estimation and reference to its source

Environment

ECETOC TRA worker v3. AISE spERC 4.1 has been used to evaluate the exposure for the environment.

Workers

PROC7: RISKOFDERM

PROC7: StoffenManager (inhalation exposure)

PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC10, PROC13: ECETOC TRA Version 2 with

modifications has been used

Contributing	Specific conditions	Exposure routes	Level of Exposure	RCR
Scenario				

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ASCAGEL MEG CONCENTRATES BITREX Worker - inhalative, long-PROC1 0.03mg/m3 0.0007 term - local and systemic. Worker - dermal, long-PROC1, PROC3 ---0,34mg/kg bw/day 0,003 term - systemic PROC2. Worker - inhalative, long-2,59mg/m³ 0,07 PROC8a term - local and systemic. PROC2. Worker - dermal, long-1,37mg/kg bw/day 0,01 term - systemic PROC13 Worker - inhalative, long-PROC3 7,76mg/m³ 0.22 term - local and systemic. PROC4, Worker - inhalative, long-12,94mg/m³ 0,37 PROC8b term - local and systemic. PROC4. Worker - dermal, long-6,86mg/kg bw/day 0,06 PROC8b term - systemic Worker - inhalative, long-PROC7 9,79mg/m³ 0,28 term - local and systemic. Worker - dermal, long-PROC7 54,6mg/m3 0,52 --term - systemic Worker - dermal, long-PROC8a 13,71mg/kg bw/day 0,13 term - systemic PROC10, Worker - inhalative, long-25,87mg/m³ 0,74 PROC13 term - local and systemic. Worker - dermal, long-PROC10 2,74mg/kg bw/day 0,03 term - systemic

The exposure estimate represents the 75th percentile of the exposure distibution. PROC7.

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.

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

Health

For scaling see: http://www.ecetoc.org/tra with exception for PROC7

Please note that modified version has been used (see exposure estimates).

Scaling for PROC7 (dermal) http://www.eurofins.com/riskofderm.aspx

Scaling for PROC7 (inhalation) https://www.stoffenmanager.nl/default.aspx

Additional good practice advice beyond the REACH Chemical Safety Assessment

Use suitable eye protection.		

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ASCAGEL MEG CO	NCENTRATES BIT	REX	
1. Short title of Exposure Sc	enario 11: Use in cleanin	ng agents	
Main User Groups	SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)		
Process categories	PROC1: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions PROC2: Use in closed, continuous process with occasional controlled exposure PROC3: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition 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		
		oraying icles by dipping and pouring	
Environmental Release Categories	ERC8a: Wide dispersive in	door use of processing aids in open systems	
Activity	Covers the use as a component of cleaning products including pouring/unloading from drums or containers; and exposures during mixing/diluting in the preparatory phase and cleaning activities (including spraying, brushing, dipping, wiping automated and by hand).		
2.1 Contributing scenario co	ontrolling environmental	exposure for: ERC8a	
Product characteristics	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 %.	
	Fraction of EU tonnage used in region:	0,1	
Amount used	Fraction used at the main local source.	0,00075	
	Maximum daily site tonnage (kg/day):	1580 kg	
Frequency and duration of use	Continuous exposure	365 days/year, Wide dispersive use	
Environment factors not	Other data. Other information	Local freshwater dilution factor: 10	
influenced by risk management	Other data. Other information	Local marine water dilution factor: 100	
	Emission or Release Factor: Air	0 %	
	initial release prior to RMM	, .	
Other given operational conditions affecting	Emission or Release Factor: Water	100 %	
environmental exposure	initial release prior to RMM	, .	
	Emission or Release Factor: Soil	0 %	
	initial release prior to RMM	, Regional only.	
Technical conditions and measures at process level to prevent release	Water	Estimated substance removal from wastewater via domestic sewage treatment (%): (Degradation effectiveness: 87 %)	
Technical onsite conditions and measures to reduce or limit discharges, air emissions and	Common practices vary ac estimates used.	cross sites thus conservative process release	

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releases to soil Organizational measures to prevent/limit release from the site

2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC10, PROC11, PROC13

PROC8a, PROC8b, PROC10, PROC11, PROC13			
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	
Amount used		0,05 L/min (PROC11)	
	Exposure duration per day	< 8 h(except PROC11)	
Frequency and duration of use	Exposure duration per day	< 150 min(Critical for: PROC11)	
	Frequency of use	4 - 5 days/week(Critical for: PROC11)	
	Frequency of use	< 240 days/year(except PROC11)	
	Exposed skin area	Palm of one Hand 240 cm² (PROC1, PROC3)	
Human factors not influenced by risk management	Exposed skin area	Palms of both hands 480 cm² (PROC2, PROC4, PROC8b, PROC13)	
	Exposed skin area	Two hands 960 cm ² (PROC8a, PROC10)	
	Exposed skin area	Whole body (PROC11)	
Oth an anamatic mal can dition a	Indoor use		
Other operational conditions affecting workers exposure	Assumes activities are at ambient temperature.		
anothing workers expectate	Room size	1000 m3(PROC11)	
Technical conditions and measures to control dispersion		lation (LEV). (Efficiency: 80 %)(PROC8a, PROC10) to points where emissions occur.(PROC11)	
from source towards the worker	Trovido oxiradi vermidileri	to points innere enhaciente eccuni, i rice i 1)	
Organisational measures to prevent /limit releases, dispersion and exposure	Ensure that the task is not carried out by more than one worker. Ensure that the task is not carried out overhead. Ensure control measures are regularly inspected and maintained. Clean equipment and the work area every day.(PROC11)		
	If no LEV: Wear respiratory protection(PROC8a, PROC10)		
Conditions and measures related to personal protection, hygiene	employee training. (Efficier	gloves (tested to EN374) in combination with 'basic' ncy: 90 %)(PROC10, PROC11, PROC13)	
and health evaluation	If no LEV: Wear respiratory protection. (Efficiency: 40 %)(PROC11)		
	Wear suitable coveralls to prevent exposure to the skin. (Efficiency: 80 %)(PROC11)		

3. Exposure estimation and reference to its source

Environment

ECETOC TRA worker v3. AISE spERC 8a.1 has been used to evaluate the exposure for the environment.

Workers

PROC11: RISKOFDERM

PROC11: StoffenManager (inhalation exposure)

PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC10, PROC13: ECETOC TRA Version 2 with

modifications has been used

Contributing	Specific conditions	Exposure routes	Level of Exposure	RCR
Scenario		-		

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ASCAGEL MEG CONCENTRATES BITREX Worker - inhalative, long-PROC1 0.03mg/m3 0,0007 term - local and systemic. Worker - dermal, long-PROC1, PROC3 0,003 ---0,34mg/kg bw/day term - systemic PROC2. Worker - inhalative, long-PROC8a, 12,94mg/m³ 0.37 term - local and systemic. PROC10 PROC2. Worker - dermal, long-1,37mg/kg bw/day 0,01 term - systemic PROC13 Worker - inhalative, long-7,76mg/m³ 0.22 PROC3 term - local and systemic. PROC4, Worker - inhalative, long-PROC8b. 25,88mg/m³ 0.74 term - local and systemic. PROC13 PROC4, Worker - dermal, long-6,86mg/kg bw/day 0,06 PROC8b term - systemic Worker - dermal, long-PROC8a 13,71mg/kg bw/day 0.13 term - systemic Worker - dermal, long-PROC10 2,74mg/kg bw/day 0,03 term - systemic Worker - inhalative, long-PROC11 14,05mg/m³ 0,4 term - local and systemic. Worker - dermal, long-PROC11 53,75mg/kg bw/day 0.51 term - systemic

The exposure estimate represents the 75th percentile of the exposure distibution. PROC11.

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.

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

Health

For scaling see: http://www.ecetoc.org/tra with exception for PROC11

Please note that modified version has been used (see exposure estimates).

Scaling for PROC11 (dermal) http://www.eurofins.com/riskofderm.aspx

Scaling for PROC11 (inhalation) https://www.stoffenmanager.nl/default.as

Additional good practice advice beyond the REACH Chemical Safety Assessment

Use suitable eye protection.	

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ASCAGEL MEG CONCENTRATES BITREX 1. Short title of Exposure Scenario 12: Use in agrochemicals SU 22: Professional uses: Public domain (administration, education, Main User Groups entertainment, services, craftsmen) PROC1: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions PROC2: Use in closed, continuous process with occasional controlled exposure 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 Process categories 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) PROC11: Non industrial spraying PROC13: Treatment of articles by dipping and pouring **Environmental Release** ERC8d: Wide dispersive outdoor use of processing aids in open systems Categories Use as an agrochemical excipient for application by manual or machine spraying, Activity smokes and fogging; including equipment clean-downs and disposal. 2.1 Contributing scenario controlling environmental exposure for: ERC8d Concentration of the Covers percentage substance in the product up to Substance in Product characteristics 100 %. Mixture/Article Fraction of EU tonnage 0.1 used in region: Fraction used at the main 0,002 Amount used local source. Maximum daily site 5479 kg tonnage (kg/day): Frequency and duration of use Continuous exposure 365 days/year, Wide dispersive use Other data, Other Local freshwater dilution factor: 10 information Environment factors not influenced by risk management Other data. Other Local marine water dilution factor: 100 information **Emission or Release** 100 % Factor: Air initial release prior to RMM, Emission or Release Other given operational 0 % Factor: Water conditions affecting environmental exposure initial release prior to RMM, **Emission or Release** 0 % Factor: Soil initial release prior to RMM, Regional only. Technical conditions and No air emission controls required; required removal Air measures at process level to efficiency is 0%. prevent release Estimated substance removal from wastewater via Technical onsite conditions and Water domestic sewage treatment (%): (Degradation measures to reduce or limit effectiveness: 0 %) discharges, air emissions and Common practices vary across sites thus conservative process release releases to soil estimates used. Organizational measures to prevent/limit release from the site

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2.2 Contributing scenario co PROC8b, PROC9, PROC1		re for: PROC1, PROC2, PROC4, PROC8a,	
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	
Amount used		0,05 L/min (PROC11)	
	Exposure duration per day	< 8 h(except PROC11)	
Frequency and duration of use	Exposure duration per day	< 150 min(Critical for: PROC11)	
	Frequency of use	< 240 days/year(except PROC11)	
	Frequency of use	4 - 5 days/week(Critical for: PROC11)	
	Exposed skin area	Palm of one Hand 240 cm ² (PROC1)	
Human factors not influenced by	Exposed skin area	Palms of both hands 480 cm² (PROC2, PROC4, PROC8b, PROC9, PROC13)	
risk management	Exposed skin area	Two hands 960 cm ² (PROC8a)	
	Exposed skin area	Whole body (PROC11)	
	Indoor use		
Other operational conditions affecting workers exposure	Assumes activities are at ambient temperature.		
anecting workers exposure	Room size	1000 m3(PROC11)	
Technical conditions and measures to control dispersion	Provide extraction ventilation at points where emissions occur. (Efficiency: 80 %)(PROC8a)		
from source towards the worker	Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).(PROC11)		
Organisational measures to prevent /limit releases, dispersion and exposure	Ensure that the task is not carried out by more than one worker. Ensure that the task is not carried out overhead. Clean equipment and the work area every day. Ensure control measures are regularly inspected and maintained.(PROC11)		
	If no LEV: Wear respiratory protection(PROC8a) Wear respiratory protection. (Efficiency: 40 %)(PROC11)		
Conditions and measures related to personal protection, hygiene	required.(PROC11)	ection is used, a LEV with adequate effectiveness is	
and health evaluation	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Efficiency: 90 %)(PROC11, PROC13)		
	Wear suitable coveralls to prevent exposure to the skin. (Efficiency: 80 %)(PROC11)		

3. Exposure estimation and reference to its source

Environment

ECETOC TRA worker v3. ECPA spERC 8d.2.v1 has been used to evaluate the exposure for the environment.

Workers

PROC11: RISKOFDERM

PROC11: StoffenManager (inhalation exposure)

PROC1, PROC2, PROC4, PROC8a, PROC8b, PROC9, PROC13: ECETOC TRA Version 2 with modifications has

been used

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ASCAGEL MEG CONCENTRATES BITREX Worker - inhalative, long-PROC1 0.03mg/m3 0,0007 term - local and systemic. Worker - dermal, long-PROC1 0,003 ---0,34mg/kg bw/day term - systemic PROC2. Worker - inhalative, long-12,94mg/m³ 0,37 PROC8a term - local and systemic. PROC2, Worker - dermal, long-1,37mg/kg bw/day 0,01 PROC13 term - systemic PROC4. PROC8b, Worker - inhalative, long-25,88mg/m³ 0.74 PROC9, term - local and systemic. PROC13 PROC4. Worker - dermal, long-PROC8b, 6,86mg/kg bw/day 0,06 term - systemic PROC9 Worker - dermal, long-PROC8a 13,71mg/kg bw/day 0.13 term - systemic Worker - inhalative, long-PROC11 14,05mg/m³ 0,4 term - local and systemic. Worker - dermal, long-PROC11 0,51 53,75mg/kg bw/day term - systemic

The exposure estimate represents the 75th percentile of the exposure distibution. PROC11.

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.

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

Health

For scaling see: http://www.ecetoc.org/tra with exception for PROC11

Please note that modified version has been used (see exposure estimates).

Scaling for PROC11 (dermal) http://www.eurofins.com/riskofderm.aspx

Scaling for PROC11 (inhalation) https://www.stoffenmanager.nl/default.as

Additional good practice advice beyond the REACH Chemical Safety Assessment

•	•	•	
Use suitable eye protection.			

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ASCAGEL MEG CO	NCENTRATES BIT	REX	
1. Short title of Exposure So			
Main User Groups	SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites		
Process categories	PROC1: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions PROC2: Use in closed, continuous process with occasional controlled exposure PROC3: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition 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		
Activity	Covers the use of formulated lubricants in closed and open systems including transfer operations, operation of machinery/engines and similar articles, reworking on reject articles, equipment maintenance and disposal of wastes.		
2.1 Contributing scenario co	ontrolling environmental	exposure for: ERC4	
Product characteristics	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 %.	
	Fraction of EU tonnage used in region:	1	
Amount used	Fraction used at the main local source.	0,0001	
	Maximum daily site tonnage (kg/day):	5000 kg	
Frequency and duration of use	Continuous exposure	20 days/year, Continuous release	
Environment factors not	Other data. Other information	Local freshwater dilution factor: 10	
influenced by risk management	Other data. Other information	Local marine water dilution factor: 100	
	Emission or Release Factor: Air	0,03 %	
	initial release prior to RMM	, .	
Other given operational conditions affecting environmental exposure	Emission or Release Factor: Water	0,1 %	
	initial release prior to RMM	, •	
	Emission or Release Factor: Soil	0,1 %	
	initial release prior to RMM	, Regional only.	
Technical conditions and measures at process level to prevent release	Air	No air emission controls required; required removal efficiency is 0%.	

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ASCAGEL MEG CONCENTRATES BITREX Technical onsite conditions and Treat onsite wastewater (prior to receiving water measures to reduce or limit Water discharge) to provide the required removal discharges, air emissions and efficiency of (%): (Degradation effectiveness: 87 %) releases to soil Common practices vary across sites thus conservative process release Organizational measures to estimates used. prevent/limit release from the site 2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC3, PROC4, PROC7, PROC8a, PROC8b, PROC9, PROC10, PROC13, PROC17, PROC18 Concentration of the Covers percentage substance in the product up to Substance in 100 %. Mixture/Article Product characteristics Physical Form (at time of liquid use) 600 mL/min (PROC7) Amount used Exposure duration per < 8 h(except PROC7) Exposure duration per < 6 h(Critical for: PROC7) Frequency and duration of use Frequency of use < 240 days/year(except PROC7) 4 - 5 days/week(Critical for: PROC7) Frequency of use Exposed skin area Palm of one Hand 240 cm² (PROC1, PROC3) Palms of both hands 480 cm² (PROC2, PROC4, Exposed skin area PROC8b, PROC9, PROC13) Human factors not influenced by risk management Exposed skin area Whole body (PROC7) Two hands 960 cm² (PROC8a, PROC10, PROC17, Exposed skin area PROC18) Indoor use Other operational conditions Assumes activities are at ambient temperature. affecting workers exposure Room size 1000 m3(PROC7) Provide extraction ventilation at points where emissions occur. (Efficiency: 50 Technical conditions and %)(PROC7) measures to control dispersion Provide extraction ventilation at points where emissions occur. (Efficiency: 90 %)(PROC8a, PROC17, PROC18) from source towards the worker Ensure that the task is not carried out overhead. Organisational measures to Ensure that the task is being carried out outside the breathing zone of a worker prevent /limit releases, dispersion (distance head-product greater than 1m). and exposure Clean equipment and the work area every day. Ensure control measures are regularly inspected and maintained. (PROC7) Wear suitable coveralls to prevent exposure to the skin. (Efficiency: 80 %)(PROC7) Conditions and measures related Wear chemically resistant gloves (tested to EN374) in combination with 'basic' to personal protection, hygiene employee training. (Efficiency: 90 %)(PROC7, PROC10, PROC13, PROC17, and health evaluation PROC18) If no LEV: Wear respiratory protection(PROC8a) 3. Exposure estimation and reference to its source **Environment** ECETOC TRA worker v3. ESVOC spERC 4.6a.v1 has been used to evaluate the exposure for the environment. Workers

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PROC7: StoffenManager (inhalation exposure)



PROC7: RISKOFDERM

PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC9, PROC10, PROC13, PROC17, PROC18: ECETOC TRA Version 2 with modifications has been used

Contributing Scenario	Specific conditions	Exposure routes	Level of Exposure	RCR	
PROC1		Worker - inhalative, long-term - local and systemic.	0,03mg/m3	0,0007	
PROC1, PROC3		Worker - dermal, long- term - systemic	0,34mg/kg bw/day	0,003	
PROC2, PROC8a, PROC17, PROC18		Worker - inhalative, long- term - local and systemic.	2,59mg/m³	0,07	
PROC2, PROC13		Worker - dermal, long- term - systemic	1,37mg/kg bw/day	0,01	
PROC3		Worker - inhalative, long-term - local and systemic.	7,76mg/m³	0,22	
PROC4, PROC8b, PROC9		Worker - inhalative, long-term - local and systemic.	12,94mg/m³	0,37	
PROC4, PROC8b, PROC9		Worker - dermal, long- term - systemic	6,86mg/kg bw/day	0,06	
PROC7		Worker - inhalative, long-term - local and systemic.	9,79mg/m³	0,28	
PROC7		Worker - dermal, long- term - systemic	54,6mg/kg bw/day	0,52	
PROC8a, PROC18		Worker - dermal, long- term - systemic	13,71mg/kg bw/day	0,13	
PROC10, PROC13		Worker - inhalative, long-term - local and systemic.	25,87mg/m³	0,74	
PROC10, PROC17		Worker - dermal, long- term - systemic	2,74mg/kg bw/day	0,03	

The exposure estimate represents the 75th percentile of the exposure distibution. PROC7.

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.

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

Health

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

Please note that modified version has been used (see exposure estimates).

Scaling for PROC7 (dermal) http://www.eurofins.com/riskofderm.aspx

Scaling for PROC7 (inhalation) https://www.stoffenmanager.nl/default.aspx

Additional good practice advice beyond the REACH Chemical Safety Assessment

Use suitable eye protection.

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ASCAGEL MEG CO	NCENTRATES BIT	TREX	
1. Short title of Exposure Sc	enario 14: Use as Functi	onal Fluids	
Main User Groups	SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites		
Process categories	PROC1: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions PROC2: Use in closed, continuous process with occasional controlled exposure PROC3: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition 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 sul	bstances in closed systems	
Activity	Use as functional fluids e.g. cable oils, transfer oils, coolants, insulators, refrigerants, hydraulic fluids in industrial equipment including maintenance and related material transfers.		
2.1 Contributing scenario co	ontrolling environmental	exposure for: ERC7	
Product characteristics	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 %.	
	Fraction of EU tonnage used in region:	1	
Amount used	Fraction used at the main local source.	0,00001	
	Maximum daily site tonnage (kg/day):	500 kg	
Frequency and duration of use	Continuous exposure	20 days/year, Continuous release	
Environment factors not	Other data. Other information	Local freshwater dilution factor: 10	
influenced by risk management	Other data. Other information	Local marine water dilution factor: 100	
	Emission or Release Factor: Air	0,1 %	
	initial release prior to RMM	l, .	
Other given operational conditions affecting	Emission or Release Factor: Water	0,1 %	
environmental exposure	initial release prior to RMM	l, .	
	Emission or Release Factor: Soil	0,1 %	
	initial release prior to RMM	I, Regional only.	
Technical conditions and measures at process level to	Air	No air emission controls required; required removal efficiency is 0%.	
prevent release Technical onsite conditions and measures to reduce or limit discharges, air emissions and	Water	Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of (%): (Degradation effectiveness: 87 %)	
releases to soil Organizational measures to Common practices vary across sites thus conservative process release estimates used.			

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prevent/limit release from the site

2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC9

PROCOA, PROCOD, PROC	PROCOA, PROCOD, PROCO				
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, low fugacity			
Amount used	n.a. in tier 1 TRA MODEL				
Frequency and duration of use	Exposure duration per day	< 8 h			
. ,	Frequency of use	< 240 days/year			
	Exposed skin area	Palm of one Hand 240 cm² (PROC1, PROC3)			
Human factors not influenced by risk management	Exposed skin area	Palms of both hands 480 cm ² (PROC2, PROC4, PROC8b, PROC9)			
	Exposed skin area	Two hands 960 cm ² (PROC8a)			
Other operational conditions	Indoor use				
affecting workers exposure	Assumes activities are at ambient temperature.				
Technical conditions and measures to control dispersion	Provide extraction ventilation at points where emissions occur. (Efficiency: 90 %)(PROC8a)				
from source towards the worker					
Conditions and measures related to personal protection, hygiene	If no LEV: Wear respiratory protection(PROC8a)				
and health evaluation					

3. Exposure estimation and reference to its source

Environment

ECETOC TRA worker v3. ESVOC spERC 7.13a.v1 has been used to evaluate the exposure for the environment.

Workers

PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC9: ECETOC TRA Version 2 with modifications has been used

Contributing Scenario	Specific conditions	Exposure routes	Level of Exposure	RCR
PROC1		Worker - inhalative, long-term - local and systemic.	0,03mg/m3	0,0007
PROC1, PROC3		Worker - dermal, long- term - systemic	0,34mg/kg bw/day	0,003
PROC2, PROC8a		Worker - inhalative, long-term - local and systemic.	2,59mg/m³	0,07
PROC2		Worker - dermal, long- term - systemic	1,37mg/kg bw/day	0,01
PROC3		Worker - inhalative, long-term - local and systemic.	7,76mg/m³	0,22
PROC4, PROC8b, PROC9		Worker - inhalative, long-term - local and systemic.	12,94mg/m³	0,37
PROC4, PROC8b, PROC9		Worker - dermal, long- term - systemic	6,86mg/kg bw/day	0,06
PROC8a		Worker - dermal, long-	13,71mg/kg bw/day	0,13

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ASCAGEL	MEG CONCENTE	RATES BITREX		
		term - systemic		
4 Guidance t	o Downstream User to e		s inside the hounda	ries set by the
Exposure		variatio whether he work		inco oct by the
be necessary t Further details industries-librar Health For further info Please note the	rmation on the assessment nat modified version has been	cific risk management measu blogies are provided in SpER nethod, see: http://www.eceto used (see exposure estimate	ures. C factsheet (http://cefic coorg/tra es).	
Use suitable eye	I practice advice beyond th	e REACH Chemical Safety	Assessment	

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ASCAGEL MEG CONCENTRATES BITREX 1. Short title of Exposure Scenario 15: Use as Functional Fluids SU 22: Professional uses: Public domain (administration, education, Main User Groups entertainment, services, craftsmen) PROC1: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions PROC2: Use in closed, continuous process with occasional controlled exposure PROC3: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition Process categories 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** ERC9b: Wide dispersive outdoor use of substances in closed systems Categories Use as functional fluids e.g. cable oils, transfer oils, coolants, insulators, Activity refrigerants, hydraulic fluids in professional equipment including maintenance and related material transfers. 2.1 Contributing scenario controlling environmental exposure for: ERC9b Concentration of the Covers percentage substance in the product up to Substance in Product characteristics 100 %. Mixture/Article Fraction of EU tonnage 0.1 used in region: Fraction used at the main 0,002 Amount used local source. Maximum daily site 5479 kg tonnage (kg/day): Frequency and duration of use Continuous exposure 365 days/year, Continuous release Other data, Other Local freshwater dilution factor: 10 information Environment factors not influenced by risk management Other data. Other Local marine water dilution factor: 100 information **Emission or Release** 5 % Factor: Air initial release prior to RMM, Emission or Release Other given operational 5 % Factor: Water conditions affecting environmental exposure initial release prior to RMM, **Emission or Release** 5 % Factor: Soil initial release prior to RMM, Regional only. Technical conditions and No air emission controls required; required removal Air measures at process level to efficiency is 0%. prevent release Estimated substance removal from wastewater via Technical onsite conditions and Water domestic sewage treatment (%): (Degradation measures to reduce or limit effectiveness: 87 %) discharges, air emissions and Common practices vary across sites thus conservative process release releases to soil estimates used. Organizational measures to prevent/limit release from the site

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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, low fugacity		
Amount used	n.a. in tier 1 TRA MODEL			
Frequency and duration of use	Exposure duration per day	< 8 h		
. ,	Frequency of use	< 240 days/year		
	Exposed skin area	Palm of one Hand 240 cm² (PROC1, PROC3)		
Human factors not influenced by risk management	Exposed skin area	Palms of both hands 480 cm² (PROC2, PROC9, PROC20)		
	Exposed skin area	Two hands 960 cm ² (PROC8a)		
Other operational conditions	Indoor use			
affecting workers exposure	Assumes activities are at ambient temperature.			
Technical conditions and measures to control dispersion	Provide extraction ventilation at points where emissions occur. (Efficiency: 80 %)(PROC8a)			
from source towards the worker				
Conditions and measures related to personal protection, hygiene	If no LEV: Wear respiratory protection(PROC8a)			
and health evaluation				

3. Exposure estimation and reference to its source

Environment

ECETOC TRA worker v3.

Workers

PROC1, PROC2, PROC3, PROC8a, PROC9, PROC20: ECETOC TRA Version 2 with modifications has been used

Contributing Scenario	Specific conditions	Exposure routes	Level of Exposure	RCR
PROC1		Worker - inhalative, long-term - local and systemic.	0,03mg/m3	0,0007
PROC1, PROC3		Worker - dermal, long- term - systemic	0,34mg/kg bw/day	0,003
PROC2, PROC8a, PROC20		Worker - inhalative, long- term - local and systemic.	12,94mg/m³	0,37
PROC2		Worker - dermal, long- term - systemic	1,37mg/kg bw/day	0,01
PROC3		Worker - inhalative, long- term - local and systemic.	7,76mg/m³	0,22
PROC8a		Worker - dermal, long- term - systemic	13,71mg/kg bw/day	0,13
PROC9		Worker - inhalative, long- term - local and systemic.	25,88mg/m³	0,74
PROC9		Worker - dermal, long- term - systemic	6,86mg/kg bw/day	0,06
PROC20		Worker - dermal, long-	1,71mg/kg bw/day	0,02

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ASCAGEL MEG CONCENTRATES BITREX			
torm overtenic			
term - systemic	arias set by the		
4. Guidance to Downstream User to evaluate whether he works inside the bound Exposure Scenario	aries set by the		
Environment			
Guidance is based on assumed operating conditions which may not be applicable to all sites; the	nus, scaling may		
be necessary to define appropriate site-specific risk management measures. Further details on scaling and control technologies are provided in SpERC factsheet (http://cefi	c.org/en/reach-for-		
industries-libraries.html). Health	ı		
For further information on the assessment method, see: http://www.ecetoc.org/tra	1		
Please note that modified version has been used (see exposure estimates).			
Additional good practice advice beyond the REACH Chemical Safety Assessment			
Use suitable eye protection.			

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1. Short title of Exposure Sc	enario 16: Use in heat tra	ansfer and hydraulic 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	ERC9b: Wide dispersive or	utdoor use of substances in closed systems	
2.1 Contributing scenario co	entrolling environmental	exposure for: ERC9b	
Product characteristics	Concentration of the Substance in Mixture/Article	Concentration of substance in product : 0% - 30%	
	Fraction of EU tonnage used in region:	0,1	
Amount used	Fraction used at the main local source.	0,002	
	Maximum daily site tonnage (kg/day):	5479 kg	
Frequency and duration of use	Continuous exposure	365 days/year, Continuous release	
Environment factors not	Other data.Other information	Local freshwater dilution factor: 10	
influenced by risk management	Other data.Other information	Local marine water dilution factor: 100	
	Emission or Release Factor: Air	5 %	
	initial release prior to RMM, .		
Other given operational conditions affecting	Emission or Release Factor: Water	5 %	
environmental exposure	initial release prior to RMM, .		
	Emission or Release Factor: Soil	5 %	
	initial release prior to RMM	, Regional only.	
Technical conditions and measures at process level to	Air	No air emission controls required; required removal efficiency is 0%.	
prevent release Technical onsite conditions and measures to reduce or limit discharges, air emissions and	Water	Estimated substance removal from wastewater via domestic sewage treatment (%): (Degradation effectiveness: 87 %)	
releases to soil Organizational measures to prevent/limit release from the site			
2.2 Contributing scenario co	ontrolling consumer expo	osure for: PC16, PC17	
Product characteristics	Concentration of the Substance in Mixture/Article	Concentration of substance in product : 0% - 30%	
Toddot ondraotensilos	Physical Form (at time of use)	Liquid, low fugacity	
Frequency and duration of use	Exposure duration per day	< 15 min	
Human factors not influenced by risk management	Exposed skin area	Two hands 960 cm ²	
Other given operational	Indoor use		
conditions affecting consumers exposure	Assumes activities are at ambient temperature.		

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3. Exposure estimation and reference to its source

Environment

ECETOC TRA worker v3.

Consumers

PC16, PC17: Use of ECETOC TRA Version 2 with modifications.

Contributing Scenario	Specific conditions	Exposure routes	Level of Exposure	RCR
PC16, PC17		Consumer-inhalative, long-term - local and systemic.	1,93mg/m3	0,28
PC16, PC17		Consumer - dermal, long- term - systemic	4,11mg/kg bw/day	0,08

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.

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

Health

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1. Short title of Exposure Sc	enario 17: Use in laborat	ories			
Main User Groups	SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites				
Process categories	PROC15: Use as laborator	y reagent			
Environmental Release Categories	ERC2: Formulation of prep	ERC2: Formulation of preparations ERC4: Industrial use of processing aids in processes and products, not becoming			
Activity	Use of the substance within equipment cleaning	laboratory settings, including material transfers and			
2.1 Contributing scenario co	ontrolling environmental	exposure for: ERC2, ERC4			
Product characteristics	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 %.			
	Fraction of EU tonnage used in region:	0,1			
Amount used	Fraction used at the main local source.	0,0005			
	Maximum daily site tonnage (kg/day):	5479 kg			
Frequency and duration of use	Continuous exposure	365 days/year, Wide dispersive use			
Environment factors not influenced by risk management	Other data. Other information	Local freshwater dilution factor: 10			
	Other data. Other information	Local marine water dilution factor: 100			
	Emission or Release Factor: Air	50 %			
	initial release prior to RMM, .				
Other given operational conditions affecting	Emission or Release Factor: Water	50 %			
environmental exposure	initial release prior to RMM, .				
	Emission or Release Factor: Soil	0 %			
	initial release prior to RMM	, Regional only.			
Technical conditions and measures at process level to prevent release	Air	No air emission controls required; required removal efficiency is 0%.			
Technical onsite conditions and measures to reduce or limit discharges, air emissions and	Water	Estimated substance removal from wastewater via domestic sewage treatment (%): (Degradation effectiveness: 87 %)			
releases to soil Organizational measures to prevent/limit release from the site	Common practices vary ac estimates used.	ross sites thus conservative process release			
2.2 Contributing scenario co	ontrolling worker exposu	re for: PROC15			
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, low fugacity			
Amount used	n.a. in tier 1 TRA MODEL				
Frequency and duration of use	Exposure duration per day	< 8 h			

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ASCAGEL MEG CONCENTRATES BITREX Frequency of use < 240 days/year Human factors not influenced by Exposed skin area Palm of one Hand 240 cm² (PROC15) risk management Indoor use Other operational conditions affecting workers exposure Assumes activities are at ambient temperature. 3. Exposure estimation and reference to its source **Environment** ECETOC TRA worker v3. Workers PROC15: ECETOC TRA Version 2 with modifications has been used Contributing **Specific conditions Exposure routes Level of Exposure** RCR Scenario Worker - inhalative, long-PROC15 12,94mg/m³ 0,37 term - local and systemic. Worker - dermal, long-PROC15 0,003 0,34mg/kg bw/day term - systemic 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. Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-forindustries-libraries.html). Health For further information on the assessment method, see: http://www.ecetoc.org/tra Please note that modified version has been used (see exposure estimates). Additional good practice advice beyond the REACH Chemical Safety Assessment Use suitable eye protection.

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ASCAGEL MEG COM	NCENTRATES BIT	REX	
1. Short title of Exposure Sc	enario 18: Use in laborat	ories	
Main User Groups	SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)		
Process categories	PROC15: Use as laborator	y reagent	
Environmental Release Categories	ERC8a: Wide dispersive in	door use of processing aids in open systems	
Activity	Use of small quantities with equipment cleaning	in laboratory settings, including material transfers and	
2.1 Contributing scenario co	entrolling environmental	exposure for: ERC8a	
Product characteristics	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 %.	
	Fraction of EU tonnage used in region:	0,1	
Amount used	Fraction used at the main local source.	0,0005	
	Maximum daily site tonnage (kg/day):	5479 kg	
Frequency and duration of use	Continuous exposure	365 days/year, Wide dispersive use	
Environment factors not influenced by risk management	Other data. Other information	Local freshwater dilution factor: 10	
	Other data. Other information	Local marine water dilution factor: 100	
	Emission or Release Factor: Air	50 %	
	initial release prior to RMM, .		
Other given operational conditions affecting	Emission or Release Factor: Water	50 %	
environmental exposure	initial release prior to RMM, .		
	Emission or Release Factor: Soil	0 %	
	initial release prior to RMM	, Regional only.	
Technical conditions and measures at process level to	Air	No air emission controls required; required removal efficiency is 0%.	
prevent release Technical onsite conditions and measures to reduce or limit	Water	Estimated substance removal from wastewater via domestic sewage treatment (%): (Degradation effectiveness: 87 %)	
discharges, air emissions and releases to soil Organizational measures to	Common practices vary ac estimates used.	ross sites thus conservative process release	
prevent/limit release from the site 2.2 Contributing scenario co	I Introlling worker expects	re for: PROC15	
L.E Contributing Scenario Co	Concentration of the		
Product characteristics	Substance in Mixture/Article	Covers percentage substance in the product up to 100 %.	
	Physical Form (at time of use)	Liquid, low fugacity	
Amount used	n.a. in tier 1 TRA MODEL		
Frequency and duration of use	Exposure duration per day	< 8 h	
	Frequency of use	< 240 days/year	

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ASCAGEL MEG CONCENTRATES BITREX Human factors not influenced by Exposed skin area Palm of one Hand 240 cm² (PROC15) risk management Other operational conditions Indoor use affecting workers exposure Assumes activities are at ambient temperature. 3. Exposure estimation and reference to its source **Environment** ECETOC TRA worker v3. ESVOC spERC 8.17.v1 has been used to evaluate the exposure for the environment. Workers PROC15: ECETOC TRA Version 2 with modifications has been used Contributing **Specific conditions Exposure routes Level of Exposure** RCR Scenario Worker - inhalative, long-PROC15 12,94mg/m³ 0,37 term - local and systemic. Worker - dermal, long-PROC15 0,34mg/kg bw/day 0,003 term - systemic 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. Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-forindustries-libraries.html). Health For further information on the assessment method, see: http://www.ecetoc.org/tra Please note that modified version has been used (see exposure estimates). Additional good practice advice beyond the REACH Chemical Safety Assessment Use suitable eye protection.

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ASCAGEL MEG CONCENTRATES BITREX 1. Short title of Exposure Scenario 19: Use in metal working fluids / rolling oils SU 3: Industrial uses: Uses of substances as such or in preparations at industrial Main User Groups PROC1: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions PROC2: Use in closed, continuous process with occasional controlled exposure PROC3: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition 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) Process categories 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 ERC4: Industrial use of processing aids in processes and products, not becoming **Environmental Release** Categories part of articles Covers the use in formulated MWFs/rolling oils including transfer operations, rolling and annealing activities, cutting/machining activities, automated and Activity manual application of corrosion protections (including brushing, dipping and spraying), equipment maintenance, draining and disposal of waste oils. 2.1 Contributing scenario controlling environmental exposure for: ERC4 Concentration of the Covers percentage substance in the product up to Substance in Product characteristics 100 %. Mixture/Article Fraction of EU tonnage 1 used in region: Fraction used at the main 0.0001 Amount used local source. Maximum daily site 5000 kg tonnage (kg/day): 20 days/year, Continuous release Frequency and duration of use Continuous exposure Other data. Other Local freshwater dilution factor: 10 information Environment factors not influenced by risk management Other data, Other Local marine water dilution factor: 100 information Emission or Release 0.0003 % Factor: Air initial release prior to RMM, **Emission or Release** Other given operational 0.1 % Factor: Water conditions affecting environmental exposure initial release prior to RMM, **Emission or Release** 0 % Factor: Soil initial release prior to RMM, Regional only.

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Technical conditions and		No air emission controls required; required removal	
neasures at process level to prevent release	Air	efficiency is 0%.	
Fechnical onsite conditions and neasures to reduce or limit lischarges, air emissions and	Water	Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of (%): (Degradation effectiveness: 87 %)	
eleases to soil Drganizational measures to prevent/limit release from the site	Common practices vary ac estimates used.	cross sites thus conservative process release	
		ire for: PROC1, PROC2, PROC3, PROC4, PROC10, PROC13, PROC17	
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	
Amount used		0,6 L/min (PROC7)	
	Exposure duration per day	< 8 h(except PROC7)	
Frequency and duration of use	Exposure duration per day	< 6 h(Critical for: PROC7)	
	Frequency of use	< 240 days/year(except PROC7)	
	Frequency of use	4 - 5 days/week(Critical for: PROC7)	
	Exposed skin area	Palm of one Hand 240 cm² (PROC1, PROC3)	
Human factors not influenced by	Exposed skin area	Palms of both hands 480 cm² (PROC2, PROC4, PROC5, PROC8b, PROC9, PROC13)	
risk management	Exposed skin area	Two hands 960 cm ² (PROC8a, PROC10, PROC17	
	Exposed skin area	Whole body (PROC7)	
50 6 1 10	Indoor use		
Other operational conditions affecting workers exposure	Assumes activities are at a	ambient temperature.	
wincoming workers exposure	Room size	1000 m3(PROC7)	
Fechnical conditions and measures to control dispersion	%)(PROC7)	on at points where emissions occur. (Efficiency: 50	
rom source towards the worker	Provide extraction ventilati %)(PROC8a, PROC17)	on at points where emissions occur. (Efficiency: 90	
Organisational measures to	Ensure that the task is being (distance head-product group)	ng carried out outside the breathing zone of a worker eater than 1m).	
prevent /limit releases, dispersion	Ensure that the task is not carried out overhead.		
and exposure	Clean equipment and the Ensure control measures a	work area every day. are regularly inspected and maintained.(PROC7)	
	If no LEV: Wear respiratory protection(PROC8a)		
Conditions and measures related		gloves (tested to EN374) in combination with 'basic'	
o personal protection, hygiene and health evaluation	Wear suitable coveralls to	ncy: 90 %)(PROC7, PROC10, PROC13, PROC17) prevent exposure to the skin. (Efficiency: 80	
and neatti evaluation		gloves (tested to EN374) in combination with specific	
3. Exposure estimation and	activity training. (Efficiency	r: 90 %)(PROC5)	

ECETOC TRA worker v3. ESVOC spERC 4.7a.v1 has been used to evaluate the exposure for the environment.

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Workers

PROC7: StoffenManager (inhalation exposure)

PROC7: RISKOFDERM

PROC1, PROC2, PROC3, PROC8a, PROC17: ECETOC TRA worker v3

PROC1, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC9, PROC10, PROC13, PROC17:

ECETOC TRA Version 2 with modifications has been used

Contributing Scenario	Specific conditions	Exposure routes	Level of Exposure	RCR
PROC1		Worker - inhalative, long-term - local and systemic.	0,03mg/m3	0,0007
PROC1, PROC3		Worker - dermal, long- term - systemic	0,34mg/kg bw/day	0,003
PROC2, PROC8a, PROC17		Worker - inhalative, long-term - local and systemic.	2,59mg/m³	0,07
PROC2, PROC5, PROC13		Worker - dermal, long- term - systemic	1,37mg/kg bw/day	0,01
PROC3		Worker - inhalative, long-term - local and systemic.	7,76mg/m³	0,22
PROC4, PROC5, PROC8b, PROC9		Worker - inhalative, long-term - local and systemic.	12,94mg/m³	0,37
PROC4, PROC8b, PROC9		Worker - dermal, long- term - systemic	6,86mg/kg bw/day	0,06
PROC7		Worker - inhalative, long-term - local and systemic.	9,79mg/m³	0,28
PROC7		Worker - dermal, long- term - systemic	54,6mg/kg bw/day	0,52
PROC8a		Worker - dermal, long- term - systemic	13,71mg/kg bw/day	0,13
PROC10, PROC13		Worker - inhalative, long-term - local and systemic.	25,87mg/m³	0,74
PROC10, PROC17		Worker - dermal, long- term - systemic	2,74mg/kg bw/day	0,03

The exposure estimate represents the 75th percentile of the exposure distibution. PROC7.

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.

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

Health

For scaling see: http://www.ecetoc.org/tra with exception for PROC7

Please note that modified version has been used (see exposure estimates).

Scaling for PROC7 (dermal) http://www.eurofins.com/riskofderm.aspx

Scaling for PROC7 (inhalation) https://www.stoffenmanager.nl/default.aspx

Additional good practice advice beyond the REACH Chemical Safety Assessment

Use suitable eye protection.

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ASCAGEL MEG CONCENTRATES BITREX 1. Short title of Exposure Scenario 20: Use in metal working fluids / rolling oils SU 22: Professional uses: Public domain (administration, education, Main User Groups entertainment, services, craftsmen) PROC1: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions PROC2: Use in closed, continuous process with occasional controlled exposure PROC3: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition 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 Process categories 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 ERC8a: Wide dispersive indoor use of processing aids in open systems Categories Covers the use in formulated MWFs including transfer operations, open and contained cutting/machining activities, automated and manual application of Activity corrosion protections, draining and working on contaminated/reject articles, and disposal of waste oils. 2.1 Contributing scenario controlling environmental exposure for: ERC8a Concentration of the Covers percentage substance in the product up to Product characteristics Substance in 100 %. Mixture/Article Fraction of EU tonnage 0,1 used in region: Fraction used at the main 0,0005 Amount used local source. Maximum daily site 1370 kg tonnage (kg/day): Frequency and duration of use Continuous exposure 365 days/year, Wide dispersive use Other data. Other Local freshwater dilution factor: 10 information Environment factors not influenced by risk management Other data. Other Local marine water dilution factor: 100 information **Emission or Release** 1,5 % Factor: Air initial release prior to RMM, Emission or Release Other given operational 5 % Factor: Water conditions affecting environmental exposure initial release prior to RMM, Emission or Release 5 % Factor: Soil initial release prior to RMM, Regional only. Technical conditions and No air emission controls required; required removal Air measures at process level to efficiency is 0%. prevent release

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ASCAGEL MEG CON	ICENTRATES BIT	REX		
Technical onsite conditions and measures to reduce or limit discharges, air emissions and	Water	Estimated substance removal from wastewater via domestic sewage treatment (%): (Degradation effectiveness: 87 %)		
releases to soil Organizational measures to prevent/limit release from the site	Common practices vary across sites thus conservative process release estimates used.			
		re for: PROC1, PROC2, PROC3, PROC5, ROC13, PROC17		
Product characteristics	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 %.		
Troduct orlandstoriolise	Physical Form (at time of use)	liquid		
Amount used		0,05 L/min (PROC11)		
	Exposure duration per day	< 8 h(except PROC11)		
Frequency and duration of use	Exposure duration per day	< 150 min(Critical for: PROC11)		
	Frequency of use	< 240 days/year(except PROC11)		
	Frequency of use	4 - 5 days/week(Critical for: PROC11)		
	Exposed skin area	Palm of one Hand 240 cm ² (PROC1, PROC3)		
Human factors not influenced by risk management	Exposed skin area	Palms of both hands 480 cm² (PROC2, PROC5, PROC8b, PROC9, PROC13)		
	Exposed skin area	Two hands 960 cm ² (PROC8a, PROC10, PROC17)		
	Exposed skin area	Whole body (PROC11)		
	Indoor use			
Other operational conditions affecting workers exposure	Assumes activities are at a	mbient temperature.		
anecting workers exposure	Room size	1000 m3(PROC11)		
Technical conditions and	%)(PROC8a, PROC10)	on at points where emissions occur. (Efficiency: 80		
measures to control dispersion from source towards the worker	per hour).(PROC11)	f general ventilation (not less than 3 to 5 air changes to points where emissions occur. (Efficiency: 90		
Organisational measures to prevent /limit releases, dispersion and exposure	Ensure that the task is not Ensure that the task is not Clean equipment and the v			
Conditions and measures related to personal protection, hygiene	Wear chemically resistant of employee training. (Efficier	n(PROC8a, PROC10, PROC17) gloves (tested to EN374) in combination with 'basic' ncy: 90 %)(PROC10, PROC11, PROC13, PROC17) n. (Efficiency: 40 %)(PROC11)		
and health evaluation	required.(PROC11)	ection is used, a LEV with adequate effectiveness is		
	Wear suitable coveralls to %)(PROC11)	prevent exposure to the skin. (Efficiency: 80		
3. Exposure estimation and	reference to its source			
Environment				
ECETOC TRA worker v3. ESVOC	spERC 8.7c.v1 has been u	sed to evaluate the exposure for the environment.		
Workers				

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PROC11: RISKOFDERM

PROC11: StoffenManager (inhalation exposure)

PROC1, PROC2, PROC3, PROC5, PROC8a, PROC8b, PROC9, PROC10, PROC13, PROC17: ECETOC TRA

Version 2 with modifications has been used

Contributing Scenario	Specific conditions	Exposure routes	Level of Exposure	RCR
PROC1		Worker - inhalative, long-term - local and systemic.	0,03mg/m3	0,0007
PROC1, PROC3		Worker - dermal, long- term - systemic	0,34mg/kg bw/day	0,003
PROC2, PROC8a, PROC10, PROC17		Worker - inhalative, long- term - local and systemic.	12,94mg/m³	0,37
PROC2, PROC13		Worker - dermal, long- term - systemic	1,37mg/kg bw/day	0,01
PROC3		Worker - inhalative, long-term - local and systemic.	7,76mg/m³	0,22
PROC5, PROC8b, PROC9, PROC13		Worker - inhalative, long- term - local and systemic.	25,88mg/m³	0,74
PROC5, PROC8a		Worker - dermal, long- term - systemic	13,71mg/kg bw/day	0,13
PROC8b, PROC9		Worker - dermal, long- term - systemic	6,86mg/kg bw/day	0,06
PROC10, PROC17		Worker - dermal, long- term - systemic	2,74mg/kg bw/day	0,03
PROC11		Worker - inhalative, long-term - local and systemic.	14,05mg/m³	0,4
PROC11		Worker - dermal, long- term - systemic	53,75mg/kg bw/day	0,51

The exposure estimate represents the 75th percentile of the exposure distibution. PROC11.

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.

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

Health

For scaling see: http://www.ecetoc.org/tra with exception for PROC11

Please note that modified version has been used (see exposure estimates).

Scaling for PROC11 (dermal) http://www.eurofins.com/riskofderm.aspx

Scaling for PROC11 (inhalation) https://www.stoffenmanager.nl/default.as

Additional good practice advice beyond the REACH Chemical Safety Assessment

Use suitable eye protection.

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ASCAGEL MEG CONCENTRATES BITREX 1. Short title of Exposure Scenario 21: Use as water treatment chemicals SU 3: Industrial uses: Uses of substances as such or in preparations at industrial Main User Groups PROC1: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions PROC2: Use in closed, continuous process with occasional controlled exposure PROC3: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition PROC4: Use in batch and other process (synthesis) where opportunity for Process categories 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** ERC3: Formulation in materials Categories Covers the use of the substance for the treatment of water at industrial facilities in Activity open and closed systems. 2.1 Contributing scenario controlling environmental exposure for: ERC3 Concentration of the Covers percentage substance in the product up to Substance in Product characteristics 100 %. Mixture/Article Fraction of EU tonnage 1 used in region: Fraction used at the main 0.00003 Amount used local source. Maximum daily site 100 kg tonnage (kg/day): Frequency and duration of use Continuous exposure 300 days/year, Continuous release Other data, Other Local freshwater dilution factor: 10 information Environment factors not influenced by risk management Other data. Other Local marine water dilution factor: 100 information **Emission or Release** 5 % Factor: Air initial release prior to RMM, Emission or Release Other given operational 95 % Factor: Water conditions affecting environmental exposure initial release prior to RMM, **Emission or Release** 0 % Factor: Soil initial release prior to RMM, Regional only. Technical conditions and No air emission controls required; required removal Air measures at process level to efficiency is 0%. prevent release Treat onsite wastewater (prior to receiving water Technical onsite conditions and Water discharge) to provide the required removal measures to reduce or limit efficiency of (%): (Degradation effectiveness: 87 %) discharges, air emissions and Common practices vary across sites thus conservative process release releases to soil estimates used. Organizational measures to prevent/limit release from the site

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2.2 Contributing scenario co	ntrolling worker exposu	re for: PROC1, PROC2,	PROC3, PROC4,
PROC8a, PROC8b, PROC	13		

PROCOD, PROCOD, PROCIS			
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, low fugacity	
Amount used	n.a. in tier 1 TRA MODEL		
Frequency and duration of use	Exposure duration per day	< 8 h	
1	Frequency of use	< 240 days/year	
	Exposed skin area	Palm of one Hand 240 cm ² (PROC1, PROC3)	
Human factors not influenced by risk management	Exposed skin area	Palms of both hands 480 cm ² (PROC2, PROC4, PROC8b, PROC13)	
	Exposed skin area	Two hands 960 cm ² (PROC8a)	
Other operational conditions	Indoor use		
affecting workers exposure	Assumes activities are at ambient temperature.		
Technical conditions and measures to control dispersion	Provide extraction ventilation (PROC8a)	on at points where emissions occur. (Efficiency: 90	
from source towards the worker			
Conditions and measures related	If no LEV: Wear respiratory protection(PROC8a)		
to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Efficiency: 90 %)(PROC13)		

3. Exposure estimation and reference to its source

Environment

ECETOC TRA worker v3. ESVOC spERC 3.22a.v1 has been used to evaluate the exposure for the environment.

Workers

PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC13: ECETOC TRA Version 2 with modifications has been used

Contributing Scenario	Specific conditions	Exposure routes	Level of Exposure	RCR
PROC1		Worker - inhalative, long-term - local and systemic.	0,03mg/m3	0,0007
PROC1, PROC3		Worker - dermal, long- term - systemic	0,34mg/kg bw/day	0,003
PROC2, PROC8a		Worker - inhalative, long- term - local and systemic.	2,59mg/m³	0,07
PROC2, PROC13		Worker - dermal, long- term - systemic	1,37mg/kg bw/day	0,01
PROC3		Worker - inhalative, long- term - local and systemic.	7,76mg/m³	0,22
PROC4, PROC8b		Worker - inhalative, long- term - local and systemic.	12,94mg/m³	0,37
PROC4, PROC8b		Worker - dermal, long- term - systemic	6,86mg/kg bw/day	0,06
PROC8a		Worker - dermal, long- term - systemic	13,71mg/kg bw/day	0,13
PROC13		Worker - inhalative, long-	25,87mg/m³	0,74

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ASCAGEL	. MEG CONCENT	RATES BITREX		
	1			
		term - local and systemic.		
4. Guidance t Exposure	o Downstream User to e Scenario	valuate whether he work	s inside the bounda	iries set by the
be necessary t Further details industries-libra Health For further info	ased on assumed operating coto define appropriate site-speon scaling and control technories.html).	cific risk management measuologies are provided in SpER nethod, see: http://www.eceto	ures. C factsheet (http://cefic oc.org/tra	
Additional good	d practice advice beyond th	e REACH Chemical Safety	Assessment	
Use suitable eye	protection.			

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ASCAGEL MEG CO	NCENTRATES BIT	REX	
1. Short title of Exposure So	enario 22: Use as a proce	ess chemical	
Main User Groups		s of substances as such or in preparations at industrial	
Process categories	PROC1: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions PROC2: Use in closed, continuous process with occasional controlled exposure PROC3: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition 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) PROC13: Treatment of articles by dipping and pouring PROC14: Production of preparations or articles by tabletting, compression, extrusion, pelletisation		
Environmental Release Categories	PROC15: Use as laborator ERC4: Industrial use of propart of articles	ocessing aids in processes and products, not becoming	
2.1 Contributing scenario co	ontrolling environmental	exposure for: ERC4	
Product characteristics	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 %.	
	Fraction of EU tonnage used in region:	1	
Amount used	Fraction used at the main local source.	0,015	
	Maximum daily site tonnage (kg/day):	50000 kg	
Frequency and duration of use	Continuous exposure	300 days/year, Continuous release	
Environment factors not	Other data. Other information	Local freshwater dilution factor: 10	
influenced by risk management	Other data. Other information	Local marine water dilution factor: 100	
	Emission or Release Factor: Air	2 %	
	initial release prior to RMM, .		
Other given operational conditions affecting	Emission or Release Factor: Water	0 %	
environmental exposure	initial release prior to RMM, .		
	Emission or Release Factor: Soil	0,001 %	
-	initial release prior to RMM	, Regional only.	
Technical conditions and measures at process level to prevent release	Air	No air emission controls required; required removal efficiency is 0%.	
Technical onsite conditions and measures to reduce or limit	Water	Treat onsite wastewater (prior to receiving water discharge) to provide the required removal	

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discharges, air emissions and		efficiency of (%): (Degradation effectiveness: 87 %)
releases to soil Organizational measures to prevent/limit release from the site	Common practices vary acrestimates used.	ross sites thus conservative process release

2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC9, PROC13, PROC14, PROC15

)	, , , , , , , , , , , , , , , , , , , ,	,	
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, low fugacity	
Amount used	n.a. in tier 1 TRA MODEL		
Frequency and duration of use	Exposure duration per day	< 8 h	
	Frequency of use	< 240 days/year	
Human factors not influenced by risk management	Exposed skin area	Palm of one Hand 240 cm² (PROC1, PROC3, PROC15)	
	Exposed skin area	Palms of both hands 480 cm ² (PROC2, PROC4, PROC5, PROC8b, PROC9, PROC13, PROC14)	
	Exposed skin area	Two hands 960 cm ² (PROC8a)	
Other operational conditions	Indoor use		
affecting workers exposure	Assumes activities are at ambient temperature.		
Technical conditions and measures to control dispersion	Provide extraction ventilation at points where emissions occur. (Efficiency: 90 %)(PROC8a)		
from source towards the worker			
Conditions and measures related to personal protection, hygiene	Wear chemically resistant gloves (tested to EN374) in combination with specific activity training. (Efficiency: 90 %)(PROC5, PROC13)		
and health evaluation	If no LEV: Wear respiratory protection(PROC8a)		

3. Exposure estimation and reference to its source

Environment

ECETOC TRA worker v3. ESVOC spERC 4.21a.v1 has been used to evaluate the exposure for the environment.

Workers

PROC1, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC9, PROC13, PROC14, PROC15: ECETOC TRA Version 2 with modifications has been used

Contributing Scenario	Specific conditions	Exposure routes	Level of Exposure	RCR
PROC1		Worker - inhalative, long-term - local and systemic.	0,03mg/m3	0,0007
PROC1, PROC3, PROC15		Worker - dermal, long- term - systemic	0,34mg/kg bw/day	0,003
PROC2, PROC8a		Worker - inhalative, long-term - local and systemic.	2,59mg/m³	0,07
PROC2, PROC5, PROC13		Worker - dermal, long- term - systemic	1,37mg/kg bw/day	0,01
PROC3		Worker - inhalative, long-term - local and systemic.	7,76mg/m³	0,22
PROC4, PROC5, PROC8b, PROC9,		Worker - inhalative, long- term - local and systemic.	12,94mg/m³	0,37

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PROC14,				
PROC4, PROC8b, PROC9		Worker - dermal, long- term - systemic	6,86mg/kg bw/day	0,06
PROC8a		Worker - dermal, long- term - systemic	13,71mg/kg bw/day	0,13
ROC13		Worker - inhalative, long- term - local and systemic.	25,87mg/m³	0,74
ROC14		Worker - dermal, long- term - systemic	3,43mg/kg bw/day	0,03
4. Guidance t Exposure		ser to evaluate whether he wor	ks inside the bound	aries set by the
industries-libra Health For further info Please note th	ries.html). - rmation on the asses at modified version h	ol technologies are provided in SpEF sment method, see: http://www.ecet as been used (see exposure estimat yond the REACH Chemical Safety	 oc.org/tra es).	c.org/en/reacn-for

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1. Short title of Exposure Sc adhesives, in sealants.	enario 23: Polymer prod	uction use in foams, in coatings, in	
Main User Groups	SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites		
Process categories	PROC1: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions PROC2: Use in closed, continuous process with occasional controlled exposure PROC3: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition 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	ERC6c: Industrial use of m	onomers for manufacture of thermoplastics	
2.1 Contributing scenario co	ntrolling environmental	exposure for: ERC6c	
Product characteristics	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 %.	
	Fraction of EU tonnage used in region:	1	
Amount used	Fraction used at the main local source.	0,015	
	Maximum daily site tonnage (kg/day):	50000 kg	
Frequency and duration of use	Continuous exposure	300 days/year, Continuous release	
Environment factors not	Other data. Other information	Local freshwater dilution factor: 10	
influenced by risk management	Other data. Other information	Local marine water dilution factor: 100	
	Emission or Release Factor: Air	0,2 %	
	initial release prior to RMM, .		
Other given operational conditions affecting	Emission or Release Factor: Water		
environmental exposure	initial release prior to RMM	, .	
	Emission or Release Factor: Soil	0,01 %	
	initial release prior to RMM	, Regional only.	
Technical conditions and measures at process level to	Air	No air emission controls required; required removal efficiency is 0%.	

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ASCAGEL MEG CONCENTRATES BITREX				
prevent release Technical onsite conditions and measures to reduce or limit	Water	Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of (%): (Degradation effectiveness: 87 %)		
discharges, air emissions and releases to soil Organizational measures to	Common practices vary across sites thus conservative process release estimates used.			
prevent/limit release from the site				
		re for: PROC1, PROC2, PROC3, PROC4, C10, PROC13, PROC14, PROC15		
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		
Amount used		0,6 L/min (PROC7)		
	Exposure duration per day	< 8 h(except PROC7)		
Frequency and duration of use	Exposure duration per day	< 6 h(Critical for: PROC7)		
	Frequency of use	< 240 days/year(except PROC7)		
	Frequency of use	4 - 5 days/week(Critical for: PROC7)		
	Exposed skin area	Palm of one Hand 240 cm² (PROC1, PROC3, PROC15)		
Human factors not influenced by risk management	Exposed skin area	Palms of both hands 480 cm² (PROC2, PROC4, PROC5, PROC8b, PROC9, PROC13, PROC14)		
	Exposed skin area	Whole body (PROC7)		
	Exposed skin area	Two hands 960 cm ² (PROC8a, PROC10)		
Other provides all and ditions	Indoor use			
Other operational conditions affecting workers exposure	Assumes activities are at a	mbient temperature.		
	Room size	1000 m3(PROC7)		
Technical conditions and measures to control dispersion	%)(PROC8a)	on at points where emissions occur. (Efficiency: 90		
from source towards the worker	%)(PROC7)	on at points where emissions occur. (Efficiency: 50		
Organisational measures to prevent /limit releases, dispersion and exposure	Ensure that the task is being carried out outside the breathing zone of a worker (distance head-product greater than 1m). Ensure that the task is not carried out overhead. Clean equipment and the work area every day.			
	Ensure control measures are regularly inspected and maintained.(PROC7) If no LEV: Wear respiratory protection(PROC8a)			
Conditions and measures related	Wear chemically resistant gloves (tested to EN374) in combination with specific activity training. (Efficiency: 90 %)(PROC5)			
to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Efficiency: 90 %)(PROC7, PROC10, PROC13)			
	Wear suitable coveralls to prevent exposure to the skin. (Efficiency: 80 %)(PROC7)			
3. Exposure estimation and	reference to its source			
Environment				
ECETOC TRA worker v3. ESVOC	spERC 4.20 v1 has been u	sed to evaluate the exposure for the environment.		
Workers				

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PROC7: RISKOFDERM

PROC7: StoffenManager (inhalation exposure)

PROC1, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC9, PROC10, PROC13, PROC14,

PROC15: ECETOC TRA Version 2 with modifications has been used

Contributing Scenario	Specific conditions	Exposure routes	Level of Exposure	RCR
PROC1		Worker - inhalative, long-term - local and systemic.	0,03mg/m3	0,0007
PROC1, PROC3, PROC15		Worker - dermal, long- term - systemic	0,34mg/kg bw/day	0,003
PROC2, PROC8a		Worker - inhalative, long- term - local and systemic.	2,59mg/m³	0,07
PROC2, PROC5, PROC13		Worker - dermal, long- term - systemic	1,37mg/kg bw/day	0,01
PROC3		Worker - inhalative, long- term - local and systemic.	7,76mg/m³	0,22
PROC4, PROC5, PROC8b, PROC9, PROC14, PROC15		Worker - inhalative, long- term - local and systemic.	12,94mg/m³	0,37
PROC4, PROC8b, PROC9		Worker - dermal, long- term - systemic	6,86mg/kg bw/day	0,06
PROC7		Worker - inhalative, long-term - local and systemic.	9,79mg/m³	0,28
PROC7		Worker - dermal, long- term - systemic	54,6mg/m3	0,52
PROC8a		Worker - dermal, long- term - systemic	13,71mg/kg bw/day	0,13
PROC10, PROC13		Worker - inhalative, long-term - local and systemic.	25,87mg/m³	0,74
PROC10		Worker - dermal, long- term - systemic	2,74mg/kg bw/day	0,03
PROC14		Worker - dermal, long- term - systemic	3,43mg/kg bw/day	0,03

The exposure estimate represents the 75th percentile of the exposure distibution. PROC7.

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.

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

Health

For scaling see: http://www.ecetoc.org/tra with exception for PROC7

Please note that modified version has been used (see exposure estimates).

Scaling for PROC7 (dermal) http://www.eurofins.com/riskofderm.aspx

Scaling for PROC7 (inhalation) https://www.stoffenmanager.nl/default.aspx

Additional good practice advice beyond the REACH Chemical Safety Assessment

Use suitable eye protection.

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