SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Revision Date 14.07.2018 Version 14.6

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

1.1 Product identifier

Catalogue No.	100859
Product name	Ethylene glycol monomethyl ether for analysis EMSURE® ACS,Reag. Ph Eur
REACH Registration Number	01-2119494721-33-XXXX
CAS-No.	109-86-4

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

Identified uses	Reagent for analysis In compliance with the conditions described in the annex to this safety data sheet.

1.3 Details of the supplier of the safety data sheet

Company	Merck KGaA * 64271 Darmstadt * Germany * Phone:+49 6151 72-0
Responsible Department	LS-QHC * e-mail: prodsafe@merckgroup.com

1.4 Emergency telephone number

Please contact the regional company representation in your country.

SECTION 2. Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Flammable liquid, Category 3, H226
Acute toxicity, Category 4, Oral, H302
Acute toxicity, Category 4, Inhalation, H332
Acute toxicity, Category 4, Dermal, H312
Reproductive toxicity, Category 1B, H360FD
Specific target organ toxicity - single exposure, Category 1, Immune system, H370
Specific target organ toxicity - repeated exposure, Category 2, thymus, H373

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms

Signal word

Danger

Hazard statements

H360FD May damage fertility. May damage the unborn child.
H226 Flammable liquid and vapour.
H302 + H312 + H332 Harmful if swallowed, in contact with skin or if inhaled.
H370 Causes damage to organs (Immune system).
H373 May cause damage to organs (thymus) through prolonged or repeated exposure.

Precautionary statements

Prevention
P201 Obtain special instructions before use.
P210 Keep away from heat.
Response
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P308 + P311 IF exposed or concerned: Call a POISON CENTER/doctor.

Restricted to professional users.

Reduced labelling (≤125 ml)

Hazard pictograms

Signal word

Danger

Hazard statements

H360FD May damage fertility. May damage the unborn child.

H370 Causes damage to organs (Immune system).

Precautionary statements

P201 Obtain special instructions before use.

P308 + P311 IF exposed or concerned: Call a POISON CENTER/doctor.

Index-No. 603-011-00-4

2.3 Other hazards

None known.

SECTION 3. Composition/information on ingredients

3.1 Substance

Formula	$CH_3OCH_2CH_2OH$	$C_3H_8O_2$ (Hill)
Index-No.	603-011-00-4	
EC-No.	203-713-7	
Molar mass	76,09 g/mol	

Hazardous components (REGULATION (EC) No 1272/2008)

Chemical name (Concentration)

CAS-No. Registration number Classification

2-Methoxyethanol (>= 80 % - <= 100 %)

109-86-4 01-2119494721-33-

XXXX	Flammable liquid, Category 3, H226 Acute toxicity, Category 4, H302 Acute toxicity, Category 4, H332 Acute toxicity, Category 4, H312 Reproductive toxicity, Category 1B, H360FD Specific target organ toxicity - single exposure, Category 1, H370 Specific target organ toxicity - repeated exposure, Category 2, H373

For the full text of the H-Statements mentioned in this Section, see Section 16.

3.2 Mixture

Not applicable

SECTION 4. First aid measures

4.1 Description of first aid measures

After inhalation: fresh air. If breathing stops: immediately apply artificial respiration, if necessary oxygen. Immediately call in physician.

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Consult a physician.

After eye contact: rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses.

After swallowing: caution if victim vomits. Risk of aspiration! Keep airways free. Pulmonary failure possible after aspiration of vomit. Call a physician immediately. Subsequently administer: activated charcoal (20 - 40 g in 10% slurry).

4.2 Most important symptoms and effects, both acute and delayed

irritant effects, Headache

Inhalation of high vapour concentrations can cause CNS-depression and narcosis.

4.3 Indication of any immediate medical attention and special treatment needed

Laxative: Sodium sulfate (1 tablespoon/1/4 l water).

SECTION 5. Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Carbon dioxide (CO2), Foam, Dry powder

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

5.2 Special hazards arising from the substance or mixture

Combustible.

Vapours are heavier than air and may spread along floors.

Forms explosive mixtures with air at elevated temperatures.

Pay attention to flashback.

Development of hazardous combustion gases or vapours possible in the event of fire.

5.3 Advice for firefighters

Special protective equipment for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

Further information

Remove container from danger zone and cool with water. Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Do not breathe vapours, aerosols. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders: Protective equipment see section 8.

6.2 Environmental precautions

Do not empty into drains. Risk of explosion.

6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills.

Observe possible material restrictions (see sections 7 and 10).

Take up with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected area.

6.4 Reference to other sections

Indications about waste treatment see section 13.

SECTION 7. Handling and storage

7.1 Precautions for safe handling

Advice on safe handling

Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols.

Observe label precautions.

Advice on protection against fire and explosion

Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.

Hygiene measures

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

Keep away from heat and sources of ignition. Keep container tightly closed in a dry and well-ventilated place. Keep locked up or in an area accessible only to qualified or authorised persons.

Keep under nitrogen.

Recommended storage temperature see product label.

7.3 Specific end use(s)

See exposure scenario in the Annex to this MSDS.

SECTION 8. Exposure controls/personal protection

8.1 Control parameters

8.2 Exposure controls

Engineering measures

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

See section 7.1.

Individual protection measures

Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective supplier.

Eye/face protection

Safety glasses

Hand protection

full contact:

Glove material:	butyl-rubber
Glove thickness:	0,7 mm
Break through time:	> 480 min

splash contact:

Glove material:	Viton (R)
Glove thickness:	0,70 mm
Break through time:	> 120 min

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374, for example KCL 898 Butoject® (full contact), KCL 890 Vitoject® (splash contact).
The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types.
This recommendation applies only to the product stated in the safety data sheet<(>,<)> supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Other protective equipment

Flame retardant antistatic protective clothing.

Respiratory protection
required when vapours/aerosols are generated.
Recommended Filter type: Filter A-(P2)
The entrepeneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

Environmental exposure controls
Do not empty into drains.
Risk of explosion.

SECTION 9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Form	liquid
Colour	colourless
Odour	ether-like
Odour Threshold	No information available.
pH	at 20 °C neutral
Melting point	-85 °C at 1.013 hPa
Boiling point/boiling range	125 °C at 1.013 hPa
Flash point	37 °C Method: DIN 51755 Part 1

Evaporation rate	No information available.
Flammability (solid, gas)	No information available.
Lower explosion limit	2,5 %(V)
Upper explosion limit	20 %(V)
Vapour pressure	10 hPa at 20 °C
Relative vapour density	No information available.
Density	0,964 g/cm3 at 20 °C
Relative density	No information available.
Water solubility	at 20 °C soluble
Partition coefficient: n-octanol/water	log Pow: -0,77 (experimental) (Lit.) Bioaccumulation is not expected.
Auto-ignition temperature	No information available.
Decomposition temperature	No information available.
Viscosity, dynamic	1,7 mPa.s at 20 °C
Explosive properties	Not classified as explosive.

Oxidizing properties	none

9.2 Other data

Ignition temperature	325 °C Method: DIN 51794
Saturated vapour concentration	33 g/m3 at 20 °C
Viscosity, kinematic	1,6 mm2/s at 20 °C

SECTION 10. Stability and reactivity

10.1 Reactivity

Vapour/air-mixtures are explosive at intense warming.

10.2 Chemical stability

Sensitive to air.

Stabilizer

butyl hydroxytoluene (BHT)

10.3 Possibility of hazardous reactions

Generates dangerous gases or fumes in contact with:

Aluminium, magnesium, bases, Zinc

Risk of explosion with:

Oxidizing agents, Air

Possible formation of:

Peroxides

10.4 Conditions to avoid

Heating.

10.5 Incompatible materials

Aluminium, various plastics

10.6 Hazardous decomposition products

Peroxides

SECTION 11. Toxicological information

11.1 Information on toxicological effects

Acute oral toxicity

Acute toxicity estimate: 1.100,1 mg/kg

Expert judgement

Symptoms: Risk of aspiration upon vomiting., Aspiration may cause pulmonary oedema and pneumonitis.

Acute inhalation toxicity

Acute toxicity estimate: 11,1 mg/l; vapour

Expert judgement

Symptoms: Irritations of mucous membranes

Acute dermal toxicity

Acute toxicity estimate : 1.100 mg/kg

Expert judgement

Skin irritation

Rabbit

Result: No skin irritation

OECD Test Guideline 404

Eye irritation

Rabbit

Result: slight irritation

OECD Test Guideline 405

Sensitisation

Maximisation Test Guinea pig

Result: negative

Method: OECD Test Guideline 406

Germ cell mutagenicity

Genotoxicity in vivo

Mouse

male

Oral

Bone marrow

Result: negative

Method: OECD Test Guideline 475

Genotoxicity in vitro

Ames test

Salmonella typhimurium

Result: negative

(National Toxicology Program)

In vitro mammalian cell gene mutation test

Chinese hamster ovary cells

Result: negative

Method: OECD Test Guideline 476

Carcinogenicity

This information is not available.

Reproductive toxicity

This information is not available.

Teratogenicity

This information is not available.

CMR effects

Teratogenicity:

May damage the unborn child.

Reproductive toxicity:

May damage fertility.

Specific target organ toxicity - single exposure

Causes damage to organs.

Target Organs: Immune system

Specific target organ toxicity - repeated exposure

May cause damage to organs through prolonged or repeated exposure.

Target Organs: thymus

Aspiration hazard

This information is not available.

11.2 Further information

Systemic effects:

Changes in the blood count, Headache, Inhalation of high vapour concentrations can cause CNS-depression and narcosis.

After absorption of large quantities:

Damage to:

Liver, Kidney, Central nervous system

Other dangerous properties can not be excluded.

This substance should be handled with particular care.

SECTION 12. Ecological information

12.1 Toxicity

Toxicity to fish

static test LC50 Lepomis macrochirus (Bluegill sunfish): > 10.000 mg/l; 96 h

OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates

semi-static test EC50 Daphnia magna (Water flea): 27.000 mg/l; 48 h

Analytical monitoring: yes

(ECHA)

Toxicity to algae

static test ErC50 Pseudokirchneriella subcapitata (green algae): 25.500 mg/l; 72 h

Analytical monitoring: yes

ISO 8692

Toxicity to bacteria

static test EC50 activated sludge: > 1.000 mg/l; 3 h

OECD Test Guideline 209

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)

semi-static test NOEC Daphnia magna (Water flea): > 500 mg/l; 21 d

Analytical monitoring: yes

OECD Test Guideline 202

12.2 Persistence and degradability

Biodegradability

97 %; 10 d

OECD Test Guideline 302B

Readily eliminated from water

12.3 Bioaccumulative potential

Partition coefficient: n-octanol/water

log Pow: -0,77

(experimental)

(Lit.) Bioaccumulation is not expected.

12.4 Mobility in soil

No information available.

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

12.6 Other adverse effects

Discharge into the environment must be avoided.

SECTION 13. Disposal considerations

Waste treatment methods

See www.retrologistik.com for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

SECTION 14. Transport information

Land transport (ADR/RID)

14.1 UN number	UN 1188
14.2 Proper shipping name	ETHYLENE GLYCOL MONOMETHYL ETHER
14.3 Class	3
14.4 Packing group	III
14.5 Environmentally hazardous	--
14.6 Special precautions for user	yes
Tunnel restriction code	D/E

Inland waterway transport (ADN)

Not relevant

Air transport (IATA)

14.1 UN number	UN 1188
14.2 Proper shipping name	ETHYLENE GLYCOL MONOMETHYL ETHER
14.3 Class	3
14.4 Packing group	III
14.5 Environmentally hazardous	--
14.6 Special precautions for user	no

Sea transport (IMDG)

14.1 UN number	UN 1188
14.2 Proper shipping name	ETHYLENE GLYCOL MONOMETHYL ETHER
14.3 Class	3
14.4 Packing group	III
14.5 Environmentally hazardous	--
14.6 Special precautions for user	yes
EmS	F-E S-D

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

Not relevant

SECTION 15. Regulatory information

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

EU regulations

Major Accident Hazard	SEVESO III
Legislation	STOT SPECIFIC TARGET ORGAN TOXICITY – SINGLE EXPOSURE H3 Quantity 1: 50 t Quantity 2: 200 t SEVESO III FLAMMABLE LIQUIDS P5c Quantity 1: 5.000 t Quantity 2: 50.000 t
Occupational restrictions	Take note of Dir 94/33/EC on the protection of young people at work. Take note of Dir 92/85/EEC on the safety and health at work of pregnant workers.

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer	not regulated

Regulation (EC) No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants and amending Directive 79/117/EEC	not regulated
Substances of very high concern (SVHC)	This product does contain substances of very high concern according to Regulation (EC) No 1907/2006 (REACH), Article 59 above the respective regulatory concentration limit of > 0.1 % (w/w).
Contains:	2-Methoxyethanol

National legislation
Storage class 3

15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out.

SECTION 16. Other information

Full text of H-Statements referred to under sections 2 and 3.

H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H332	Harmful if inhaled.
H360FD	May damage fertility. May damage the unborn child.
H370	Causes damage to organs.
H373	May cause damage to organs through prolonged or repeated exposure.

Training advice

Provide adequate information, instruction and training for operators.

Labelling

Hazard pictograms

Signal word

Danger

Hazard statements

H226 Flammable liquid and vapour.

H302 + H312 + H332 Harmful if swallowed, in contact with skin or if inhaled.

H360 May damage fertility or the unborn child.

H370 Causes damage to organs (Immune system).

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

Precautionary statements

Prevention

P201 Obtain special instructions before use.

P210 Keep away from heat.

Response

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

P308 + P311 IF exposed or concerned: Call a POISON CENTER/doctor.

Further information

Restricted to professional users.

Key or legend to abbreviations and acronyms used in the safety data sheet

Used abbreviations and acronyms can be looked up at www.wikipedia.org.

Regional representation

This information is given on the authorised Safety Data Sheet for your country.

The information contained herein is based on the present state of our knowledge. It characterises the product with regard to the appropriate safety precautions. It does not represent a guarantee of any properties of the product.

EXPOSURE SCENARIO 1 (Industrial use)

1. Industrial use Reagent for analysis)

Sectors of end-use

SU 3	Industrial uses: Uses of substances as such or in preparations at industrial sites
SU9	Manufacture of fine chemicals
SU 10	Formulation [mixing] of preparations and/ or re-packaging (excluding alloys)

Chemical product category

PC19	Intermediate
PC21	Laboratory chemicals

Process categories

PROC1	Use in closed process, no likelihood of exposure
PROC2	Use in closed, continuous process with occasional controlled exposure
PROC3	Use in closed batch process (synthesis or formulation)
PROC4	Use in batch and other process (synthesis) where opportunity for exposure arises
PROC8a	Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities
PROC8b	Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities
PROC15	Use as laboratory reagent

Environmental Release Categories

ERC1	Manufacture of substances
ERC6a	Industrial use resulting in manufacture of another substance (use of intermediates)

2. Contributing scenarios: Operational conditions and risk management measures

2.1 Contributing scenario controlling worker exposure for: PROC1

Product characteristics

Concentration of the Substance in Mixture/Article	Covers the percentage of the substance in the product up to 100 %.
Physical Form (at time of use)	Medium volatile liquid

Process Temperature	< 84 °C

Frequency and duration of use

Frequency of use	8 hours/day
Frequency of use	5 days/week

Other operational conditions affecting workers exposure

Outdoor / Indoor	Indoor without local exhaust ventilation (LEV)

Organisational measures to prevent /limit releases, dispersion and exposure

Covers daily exposures up to 8 hours.

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

Use suitable eye protection.

Additional good practice advice beyond the REACH Chemical Safety Assessment

Additional good practice advice	Wear chemically resistant gloves (tested to EN374) in combination with ‘basic’ employee training. Wear suitable coveralls to prevent exposure to the skin.

2.2 Contributing scenario controlling worker exposure for: PROC2

Product characteristics

Concentration of the Substance in Mixture/Article	Covers the percentage of the substance in the product up to 100 %.
Physical Form (at time of use)	Medium volatile liquid
Process Temperature	< 84 °C

Frequency and duration of use

Frequency of use	15 minutes/day
Frequency of use	5 days/week

Other operational conditions affecting workers exposure

Outdoor / Indoor	Indoor without local exhaust ventilation (LEV)

Organisational measures to prevent /limit releases, dispersion and exposure

Avoid carrying out operation for more than 15 minutes.

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

Wear suitable gloves (tested to EN374) and eye protection.

Additional good practice advice beyond the REACH Chemical Safety Assessment

Additional good practice advice	Wear suitable coveralls to prevent exposure to the skin.

2.3 Contributing scenario controlling worker exposure for: PROC3

Product characteristics

Concentration of the Substance in Mixture/Article	Covers the percentage of the substance in the product up to 100 %.
Physical Form (at time of use)	Medium volatile liquid
Process Temperature	< 84 °C

Frequency and duration of use

Frequency of use	4 hours/day
Frequency of use	5 days/week

Other operational conditions affecting workers exposure

Outdoor / Indoor	Indoor with local exhaust ventilation (LEV)

Organisational measures to prevent /limit releases, dispersion and exposure

Avoid carrying out operation for more than 4 hours.

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

Use suitable eye protection.

Additional good practice advice beyond the REACH Chemical Safety Assessment

Additional good practice advice	Wear suitable coveralls to prevent exposure to the skin. Wear suitable gloves tested to EN374.

2.4 Contributing scenario controlling worker exposure for: PROC4

Product characteristics

Concentration of the Substance in Mixture/Article	Covers the percentage of the substance in the product up to 100 %.
Physical Form (at time of use)	Medium volatile liquid
Process Temperature	< 84 °C

Frequency and duration of use

Frequency of use	4 hours/day
Frequency of use	5 days/week

Other operational conditions affecting workers exposure

Outdoor / Indoor	Indoor with local exhaust ventilation (LEV)

Organisational measures to prevent /limit releases, dispersion and exposure

Avoid carrying out operation for more than 4 hours.

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

Use suitable eye protection. Wear chemically resistant gloves (tested to EN374) in combination with specific activity training.

Additional good practice advice beyond the REACH Chemical Safety Assessment

Additional good practice advice	Wear suitable coveralls to prevent exposure to the skin.

2.5 Contributing scenario controlling worker exposure for: PROC8a, PROC8b

Product characteristics

Concentration of the Substance in Mixture/Article	Covers the percentage of the substance in the product up to 100 %.
Physical Form (at time of use)	Medium volatile liquid
Process Temperature	< 84 °C

Frequency and duration of use

Frequency of use	1 hours/day
Frequency of use	5 days/week

Other operational conditions affecting workers exposure

Outdoor / Indoor	Indoor with local exhaust ventilation (LEV)

Organisational measures to prevent /limit releases, dispersion and exposure

Avoid carrying out operation for more than 1 hour.

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

Wear chemically resistant gloves (tested to EN374) in combination with specific activity training. Use suitable eye protection.

Additional good practice advice beyond the REACH Chemical Safety Assessment

Additional good practice advice	Wear suitable coveralls to prevent exposure to the skin.

2.6 Contributing scenario controlling worker exposure for: PROC15

Product characteristics

Concentration of the Substance in Mixture/Article	Covers the percentage of the substance in the product up to 100 %.
Physical Form (at time of use)	Medium volatile liquid
Process Temperature	< 84 °C

Frequency and duration of use

Frequency of use	8 hours/day
Frequency of use	5 days/week

Other operational conditions affecting workers exposure

Outdoor / Indoor	Indoor with local exhaust ventilation (LEV)

Organisational measures to prevent /limit releases, dispersion and exposure

Covers daily exposures up to 8 hours.

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

Wear chemically resistant gloves (tested to EN374) in combination with specific activity training. Use suitable eye protection.

Additional good practice advice beyond the REACH Chemical Safety Assessment

Additional good practice advice	Wear suitable coveralls to prevent exposure to the skin.

3. Exposure estimation and reference to its source

Environment

A chemical safety assessment was performed according REACH Article 14(3), Annex I, sections 3 (Environmental Hazard Assessment) and 4 (PBT/vPvB Assessment). As no hazard was identified, an exposure assessment and risk characterisation is not necessary (REACH Annex I section 5.0).

Workers

CS	Use descriptor	Exposure duration, route, effect	RCR	Exposure Assessment Method
2.1	PROC1	longterm, inhalative, systemic	0,01	ECETOC TRA 2
		longterm, dermal, systemic	0,24	ECETOC TRA 2
		longterm, combined, systemic	0,25	
2.2	PROC2	longterm, inhalative, systemic	0,69	ECETOC TRA 2
		longterm, dermal, systemic	0,20	ECETOC TRA 2
		longterm, combined, systemic	0,89	
2.3	PROC3	longterm, inhalative, systemic	0,45	ECETOC TRA 2
		longterm, dermal, systemic	0,24	ECETOC TRA 2
		longterm, combined, systemic	0,69	
2.4	PROC4	longterm, inhalative, systemic	0,36	ECETOC TRA 2
		longterm, dermal, systemic	0,25	ECETOC TRA 2
		longterm, combined, systemic	0,61	
2.5	PROC8a	longterm, inhalative, systemic	0,30	ECETOC TRA 2
		longterm, dermal, systemic	0,49	ECETOC TRA 2
		longterm, combined, systemic	0,79	
2.5	PROC8b	longterm, inhalative, systemic	0,30	ECETOC TRA 2
		longterm, dermal, systemic	0,25	ECETOC TRA 2
		longterm, combined, systemic	0,55	
2.6	PROC15	longterm, inhalative, systemic	0,10	ECETOC TRA 2
		longterm, dermal, systemic	0,24	ECETOC TRA 2
		longterm, combined, systemic	0,34	

The default parameters and -efficiencies of the applied exposure assessment model were used for the calculation (unless stated differently).

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

Please refer to the following documents: ECHA Guidance on information requirements and chemical safety assessment Chapter R.12: Use descriptor system; ECHA Guidance for downstream users; ECHA Guidance on information requirements and chemical safety assessment Part D: Exposure Scenario Building, Part E: Risk Characterisation and Part G: Extending the SDS; VCI/Cefic REACH Practical Guides on Exposure Assessment and Communications in the Supply Chain; CEFIC Guidance Specific Environmental Release Categories (SPERCs).

For scaling of worker exposure assessments performed with ECETOC TRA, please consult the Merck tool ScIDeEx® at www.merckmillipore.com/scideex.