

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Version 8.6
Revision Date 01.07.2021
Print Date 27.09.2021**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifiers**

Product name : Tetraethyl orthosilicate for synthesis

Product Number : 8.00658
Catalogue No. : 800658
Brand : Millipore
Index-No. : 014-005-00-0
REACH No. : 01-2119496195-28-XXXX
CAS-No. : 78-10-4

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

Identified uses : Chemical for synthesis

1.3 Details of the supplier of the safety data sheet

Company : Merck Life Science UK Limited
New Road
The Old Brickyard
GILLINGHAM
Dorset
SP8 4XT
UNITED KINGDOM

Telephone : +44 (0)1747 833-000
Fax : +44 (0)1747 833-313

1.4 Emergency telephone

Emergency Phone # : +44 (0)870 8200418 (CHEMTREC)

SECTION 2: Hazards identification**2.1 Classification of the substance or mixture****Classification according to Regulation (EC) No 1272/2008**

Flammable liquids (Category 3), H226

Acute toxicity, Inhalation (Category 4), H332

Eye irritation (Category 2), H319

Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335

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

2.2 Label elements**Labelling according Regulation (EC) No 1272/2008**

Pictogram



Signal word

Warning

Hazard statement(s)

H226

Flammable liquid and vapor.

H319

Causes serious eye irritation.

H332

Harmful if inhaled.

H335

May cause respiratory irritation.

Precautionary statement(s)

P210

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P233

Keep container tightly closed.

P240

Ground and bond container and receiving equipment.

P241

Use explosion-proof electrical/ ventilating/ lighting/ equipment.

P304 + P340 + P312

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.

P305 + P351 + P338

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Supplemental Hazard Statements

none

Reduced Labeling (<= 125 ml)

Pictogram



Signal word

Warning

Hazard statement(s)

none

Precautionary statement(s)

none

Supplemental Hazard Statements

none

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.1 Substances

Formula	: C ₈ H ₂₀ O ₄ Si
Molecular weight	: 208.33 g/mol
CAS-No.	: 78-10-4
EC-No.	: 201-083-8
Index-No.	: 014-005-00-0

Component	Classification	Concentration
tetraethyl silicate		
CAS-No.	78-10-4	Flam. Liq. 3; Acute Tox. 4; Eye Irrit. 2; STOT SE 3; H226, H332, H319, H335
EC-No.	201-083-8	
Index-No.	014-005-00-0	
		<= 100 %

--	--	--

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

SECTION 4: First aid measures

4.1 Description of first-aid measures

General advice

Show this material safety data sheet to the doctor in attendance.

If inhaled

After inhalation: fresh air.

In case of skin contact

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

In case of eye contact

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

If swallowed

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data available

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

Carbon oxides

silicon oxides

Combustible.

Vapors are heavier than air and may spread along floors.

Forms explosive mixtures with air at elevated temperatures.

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

5.3 Advice for firefighters

In the event of fire, wear self-contained breathing apparatus.

5.4 Further information

Remove container from danger zone and cool with water. Suppress (knock down) gases/vapors/mists with a water spray jet. 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 vapors, 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. For personal protection see section 8.

6.2 Environmental precautions

Do not let product enter 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

For disposal 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.

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

Change contaminated clothing. Preventive skin protection recommended. Wash hands after working with substance.

For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition.

Recommended storage temperature see product label.

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Ingredients with workplace control parameters

Component	CAS-No.	Value	Control parameters	Basis
tetraethyl silicate	78-10-4	TWA	5 ppm 44 mg/m ³	Europe. Commission Directive 2017/164/EU establishing a fourth list of indicative occupational exposure limit values
	Remarks	Indicative		

		TWA	5 ppm 44 mg/m ³	UK. EH40 WEL - Workplace Exposure Limits
--	--	-----	-------------------------------	--

Predicted No Effect Concentration (PNEC)

Compartment	Value
Fresh water	0.192 mg/l
Sea water	0.0192 mg/l
Fresh water sediment	0.83 mg/kg
Sea sediment	0.083 mg/kg
Soil	0.05 mg/kg
Sewage treatment plant	4000 mg/l
Aquatic intermittent release	10 mg/l

8.2 Exposure controls

Personal protective equipment

Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses

Skin protection

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).

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0.4 mm

Break through time: 480 min

Material tested: Camatril® (KCL 730 / Aldrich Z677442, Size M)

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).

Splash contact

Material: Chloroprene

Minimum layer thickness: 0.65 mm

Break through time: 240 min

Material tested: KCL 720 Camapren®

Body Protection

Flame retardant antistatic protective clothing.

Respiratory protection

required when vapours/aerosols are generated.

Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

Recommended Filter type: Filter type ABEK

The entrepreneur 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.

Control of environmental exposure

Do not let product enter drains. Risk of explosion.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

a) Appearance	Form: liquid Color: colorless
b) Odor	No data available
c) Odor Threshold	No data available
d) pH	No data available
e) Melting point/freezing point	Melting point: -82.5 °C at ca.1,013 hPa
f) Initial boiling point and boiling range	165 - 166 °C at 1,013 hPa
g) Flash point	45 °C - closed cup - DIN 51755 Part 1
h) Evaporation rate	No data available
i) Flammability (solid, gas)	No data available
j) Upper/lower flammability or explosive limits	Upper explosion limit: 23 %(V) Lower explosion limit: 1.3 %(V)
k) Vapor pressure	< 1 hPa at 20 °C
l) Vapor density	7.19 - (Air = 1.0)
m) Relative density	No data available
n) Water solubility	1.49 g/l at 23 °C at 7 hPa - soluble
o) Partition coefficient: n-octanol/water	log Pow: 3.18 at 40 °C - Bioaccumulation is not expected.
p) Autoignition temperature	222 °C at 960.8 hPa
q) Decomposition temperature	No data available
r) Viscosity	Viscosity, kinematic: No data available Viscosity, dynamic: 0.6 mPa.s at 20 °C
s) Explosive properties	No data available
t) Oxidizing properties	No data available

9.2 Other safety information

Relative vapor density	7.19 - (Air = 1.0)
------------------------	--------------------

SECTION 10: Stability and reactivity

10.1 Reactivity

Vapor/air-mixtures are explosive at intense warming.

10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

10.3 Possibility of hazardous reactions

No data available

10.4 Conditions to avoid

Heating.

10.5 Incompatible materials

Strong oxidizing agents, Strong acids

10.6 Hazardous decomposition products

In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

LD50 Oral - Rat - male and female - > 2,500 mg/kg
(OECD Test Guideline 423)

Symptoms: Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract.

LD50 Oral - Rat - 6,270 mg/kg

Remarks: (RTECS)

LC50 Inhalation - Rat - male - 4 h - 10 mg/l
(OECD Test Guideline 403)

Remarks: (Regulation (EC) No 1272/2008, Annex VI)

Symptoms: mucosal irritations, Cough, Shortness of breath, Inhalation may lead to the formation of oedemas in the respiratory tract., Possible damages:, damage of respiratory tract

LD50 Dermal - Rabbit - 5,878 mg/kg

Remarks: (RTECS)

Skin corrosion/irritation

Skin - Rabbit

Result: No skin irritation - 4 h

(OECD Test Guideline 404)

Serious eye damage/eye irritation

Causes serious eye irritation. (Regulation (EC) No 1272/2008, Annex VI)

Respiratory or skin sensitization

Buehler Test - Guinea pig

Result: negative

(OECD Test Guideline 406)

Germ cell mutagenicity

Test Type: Ames test

Test system: Salmonella typhimurium

Metabolic activation: with and without metabolic activation

Method: Mutagenicity (Salmonella typhimurium - reverse mutation assay)

Result: negative

Carcinogenicity

No data available

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

May cause respiratory irritation.

Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

11.2 Additional Information

Repeated dose toxicity - Rat - male and female - Gavage - NOAEL (No observed adverse effect level) - 10 - 50 mg/kg

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Systemic effects:

After uptake of large quantities:

Tiredness
narcosis

Damage to:

Kidney

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

Liver - Irregularities - Based on Human Evidence

SECTION 12: Ecological information**12.1 Toxicity**

Toxicity to fish	semi-static test LC50 - Danio rerio (zebra fish) - > 245 mg/l - 96 h (Regulation (EC) No. 440/2008, Annex, C.1)
Toxicity to daphnia and other aquatic invertebrates	flow-through test EC50 - Daphnia magna (Water flea) - > 75 mg/l - 48 h (OECD Test Guideline 202)
Toxicity to algae	static test ErC50 - Pseudokirchneriella subcapitata - > 100 mg/l - 72 h (OECD Test Guideline 201)
Toxicity to bacteria	static test EC50 - activated sludge - > 100 mg/l - 3 h (OECD Test Guideline 209)

National legislation

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

Other regulations

Observe work restrictions regarding maternity protection in accordance to Dir 92/85/EEC or stricter national regulations where applicable.

Take note of Dir 94/33/EC on the protection of young people at work.

15.2 Chemical Safety Assessment

A Chemical Safety Assessment has been carried out for this substance.

SECTION 16: Other information

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

H226	Flammable liquid and vapor.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.

Further information

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.sigma-aldrich.com and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

Copyright 2020 Sigma-Aldrich Co. LLC. License granted to make unlimited paper copies for internal use only.

The branding on the header and/or footer of this document may temporarily not visually match the product purchased as we transition our branding. However, all of the information in the document regarding the product remains unchanged and matches the product ordered. For further information please contact mlsbranding@sial.com.

Annex: Exposure scenario

Identified uses:

Use: Industrial use

SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites
SU 3, SU9, SU 10: Industrial uses: Uses of substances as such or in preparations at industrial sites, Manufacture of fine chemicals, Formulation [mixing] of preparations and/ or re-packaging (excluding alloys)
PC19: Intermediate PC21: Laboratory chemicals
PROC1: Use in closed process, no likelihood of exposure PROC2: Use in closed, continuous process with occasional controlled exposure PROC3: Use in closed batch process (synthesis or formulation) PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises PROC5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/ or significant contact) PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing) PROC10: Roller application or brushing PROC14: Production of preparations or articles by tableting, compression, extrusion, pelletization PROC15: Use as laboratory reagent
ERC1, ERC2, ERC4, ERC6a, ERC6b: Manufacture of substances, Formulation of preparations, Industrial use of processing aids in processes and products, not becoming part of articles, Industrial use resulting in manufacture of another substance (use of intermediates), Industrial use of reactive processing aids

Use: Professional use

SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
PC21: Laboratory chemicals
PROC15: Use as laboratory reagent
ERC2, ERC6a, ERC6b: Formulation of preparations, Industrial use resulting in manufacture of another substance (use of intermediates), Industrial use of reactive processing aids

1. Short title of Exposure Scenario: Industrial use

Main User Groups	: SU 3
Sectors of end-use	: SU 3, SU9, SU 10
Chemical product category	: PC19, PC21

Process categories : **PROC1, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC9, PROC10, PROC14, PROC15**
Environmental Release Categories : **ERC1, ERC2, ERC4, ERC6a, ERC6b:**

2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2

Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical Form (at time of use) : Medium volatile liquid
Process Temperature : < 79 °C

Frequency and duration of use

Frequency of use : 8 hours/day

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor without local exhaust ventilation (LEV)

Organizational measures to prevent /limit releases, dispersion and exposure

Covers daily exposures up to 8 hours.

Additional good practice advice beyond the REACH Chemical Safety Assessment

Wear suitable gloves (tested to EN374) and eye protection., Wear suitable coveralls to prevent exposure to the skin.

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

Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical Form (at time of use) : Medium volatile liquid
Process Temperature : < 79 °C

Frequency and duration of use

Frequency of use : 8 hours/day

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor with local exhaust ventilation (LEV)

Organizational measures to prevent /limit releases, dispersion and exposure

Covers daily exposures up to 8 hours.

Additional good practice advice beyond the REACH Chemical Safety Assessment

Wear suitable gloves (tested to EN374) and eye protection., Wear suitable coveralls to prevent exposure to the skin.

2.2 Contributing scenario controlling worker exposure for: PROC10

Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical Form (at time of use) : Medium volatile liquid
Process Temperature : < 79 °C

Frequency and duration of use

Frequency of use : 8 hours/day

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor with local exhaust ventilation (LEV)

Organizational 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 suitable gloves tested to EN374. (Effectiveness (of a measure): 80 %)

Additional good practice advice beyond the REACH Chemical Safety Assessment

Use suitable eye protection.

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

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value	Level of Exposure	RCR*
PROC1	ECETOC TRA 3	longterm, inhalative, systemic			< 0.01
PROC1	ECETOC TRA 3	longterm, dermal, systemic			< 0.01
PROC1		longterm, combined, systemic			< 0.01
PROC2	ECETOC TRA 3	longterm, inhalative, systemic			0.051
PROC2	ECETOC TRA 3	longterm, dermal, systemic			0.11
PROC2		longterm, combined, systemic			0.62

*Risk characterisation ratio

PROC3	ECETOC TRA 3	longterm, inhalative, systemic			0.10
PROC3	ECETOC TRA 3	longterm, dermal, systemic			< 0.01
PROC3		longterm, combined, systemic			0.11
PROC4	ECETOC TRA 3	longterm, inhalative, systemic			0.20
PROC4	ECETOC TRA 3	longterm, dermal,			0.06

		systemic			
PROC4		longterm, combined, systemic			0.26
PROC5	ECETOC TRA 3	longterm, inhalative, systemic			0.51
PROC5	ECETOC TRA 3	longterm, dermal, systemic			0.11
PROC5		longterm, combined, systemic			0.62
PROC8a	ECETOC TRA 3	longterm, inhalative, systemic			0.51
PROC8a	ECETOC TRA 3	longterm, dermal, systemic			0.11
PROC8a		longterm, combined, systemic			0.62
PROC8b	ECETOC TRA 3	longterm, inhalative, systemic			0.13
PROC8b	ECETOC TRA 3	longterm, dermal, systemic			0.06
PROC8b		longterm, combined, systemic			0.18
PROC9	ECETOC TRA 3	longterm, inhalative, systemic			0.51
PROC9	ECETOC TRA 3	longterm, dermal, systemic			0.06
PROC9		longterm, combined, systemic			0.57
PROC14	ECETOC TRA 3	longterm, inhalative, systemic			0.51
PROC14	ECETOC TRA 3	longterm, dermal, systemic			0.03
PROC14		longterm, combined, systemic			0.54
PROC15	ECETOC TRA 3	longterm, inhalative, systemic			0.10
PROC15	ECETOC TRA 3	longterm, dermal, systemic			< 0.01

PROC15		longterm, combined, systemic			0.10
*Risk characterisation ratio					
PROC10	ECETOC TRA 3	longterm, inhalative, systemic			0.51
PROC10	ECETOC TRA 3	longterm, dermal, systemic			0.45
PROC10		longterm, combined, systemic			0.96

*Risk characterisation ratio

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

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

1. Short title of Exposure Scenario: Professional use

Main User Groups : **SU 22**
 Sectors of end-use : **SU 22**
 Chemical product category : **PC21**
 Process categories : **PROC15**
 Environmental Release Categories : **ERC2, ERC6a, ERC6b:**

2.2 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 % (unless stated differently).
 Physical Form (at time of use) : Medium volatile liquid
 Process Temperature : < 79 °C

Frequency and duration of use

Frequency of use : 8 hours/day

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor with local exhaust ventilation (LEV)

Organizational measures to prevent /limit releases, dispersion and exposure
Covers daily exposures up to 8 hours.

Additional good practice advice beyond the REACH Chemical Safety Assessment
Wear suitable gloves (tested to EN374) and eye protection., 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

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value	Level of Exposure	RCR*
PROC15	ECETOC TRA 3	longterm, inhalative, systemic			0.20
PROC15	ECETOC TRA 3	longterm, dermal, systemic			< 0.01
PROC15		longterm, combined, systemic			0.21

*Risk characterisation ratio

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

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

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).