InSpec OX SAFETY DATA SHEET (EC 1907/2006)

Version 3.0 EN
Revision date 1 June 2015
Print date 2 June 2015

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

1.1. Product identifier

Trade name	InSpec OX
REACH Registration No.::	if available listed in Chapter. 3

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

Relevant applications identified	Disinfectant For detailed exposure scenarios see Annexes.
Function	Sporicide

1.3. Details of the supplier of the safety data sheet

Company	Redditch Medical (A Divn of Entaco) Unit 90 Heming Road, Washford Redditch UK B98 0EA,
Telephone	+44 (0)1527 830940
Email aAddress	craig.thomas@redditchmedical.com

1.4. Emergency telephone number 07908 176679

2. Hazards identification

2.1. Classification of the substance or mixture

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

EU-CLP as per Regulation (EU) No. 1272/2008

Serious eye damage/eye irritation	Category 1	H318
Skin irritation	Category 2	H315
Hazardous to the aquatic environment - Chronic Hazard	Category 2	H411

Classification as per Directive 67/548/EC or Directive 1999/45/EC

Xi, Irritant
R36: Irritating to eyes.

2.2. Label elements

Labelling as per (EU) 1272/2008

Statutory basis: EU-CLP as per Regulation (EU) No. 1272/2008

hazard-defining component(s) (GHS)

- Peracetic acid
- hydrogen peroxide solution
- Acetic acid

Symbol(s)

Signal word	Danger
Hazard statement	H318 - Causes serious eye damage. H315 - Causes skin irritation. H411 - Toxic to aquatic life with long lasting effects.
Precautionary statement: Prevention	P273 - Avoid release to the environment. P280 - Wear protective gloves/protective clothing/eye protection/face protection.
Precautionary statement: Reaction	P302 + P352 - IF ON SKIN: Wash with plenty of water/ soap. P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P308 + P311 - IF exposed or concerned: Call a POISON CENTER/doctor.

2.3. Other hazards

Risk of decomposition in contact with incompatible substances, impurities, metals, alkalis, reducing agents.
Danger of decomposition if exposed to heat
see also section 10.
Not a PBT, vPvB substance as per the criteria of the REACH Regulation.

3. Composition/information on ingredients

Chemical nature
Preparation of perethanoic acid, hydrogen peroxide, ethanoic acid and water in balance.

3.1. Substance s

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3.2. Mixtures

Information on ingredients / Hazardous components as per EU-CLP Regulation (EC) No. 1272/2008

• Peracetic acid			0.1% - 0.5%		
CAS-No.	79-21-0	EC-No.	201-186-8	REACH-No.	01-2119531330-56-0004
Flammable liquids				Category 3	H226
Organic peroxides				Type D	H242
Acute toxicity (inhalation)				Category 3	H331
Acute toxicity (dermal)				Category 4	H312
Acute toxicity (Oral)				Category 3	H301
Skin corrosion/irritation				Category 1A	H314
Serious eye damage/eye irritation				Category 1	H318
Specific Target Organ Toxicity - Single exposure				Category 3	H335
Hazardous to the aquatic environment - AcuteHazard				Category 1	H400
Remarks	From Annex VI, Directive (EC) No. 1272/2008 supplemental classification with:				
Hazardous to the aquatic environment - Chronic Hazard				Category 1	H410
M-factor (aquatic, acute)	1				
M-factor (aquatic, chronic)	10				
• hydrogen peroxide solution			6% - 7%		
CAS-No.	7722-84-1	EC-No.	231-765-0	REACH-No.	01-2119485845-22-0000 01-2119485845-22-0012 01-2119485845-22-0016
Oxidizing liquids				Category 1	H271
Acute toxicity (inhalation)				Category 4	H332
Acute toxicity (Oral)				Category 4	H302
Skin corrosion/irritation				Category 1A	H314
Remarks	From Annex VI, Directive (EC) No. 1272/2008 supplemental classification with:				
Hazardous to the aquatic environment - Chronic Hazard				Category 3	H412

• **Acetic acid**			4% - 5%		
CAS-No.	64-19-7	EC-No.	200-580-7		
Flammable liquids				Category 3 Category 1A	
Skin corrosion/irritation				REACH-No.	01-2119475328-30-0023

Information on ingredients / Hazardous components as per Directive 67/548/EC or Directive 1999/45/ EC

• **Peracetic acid**			0.1% - 0.5%		
CAS-No.	79-21-0	EC-No.	201-186-8	REACH-No.	01-2119531330-56-0004
	R10 Xn; R20/21/22 C; R35 N; R50				
• **hydrogen peroxide solution**			6% - 7%		
CAS-No.	7722-84-1	EC-No.	231-765-0	REACH-No.	01-2119485845-22-0000 01-2119485845-22-0012 01-2119485845-22-0016
	R 5				
• **Acetic acid**			4% - 5%		
CAS-No.	64-19-7	EC-No.	200-580-7	REACH-No.	01-2119475328-30-0023
	R10				

Texts of H phrases, see in Chapter 16
See chapter 16 for text of risk phrases

4. First Aid Measures

4.1 Description of first aid measures

Pay attention to self-protection.
Remove victims from hazardous area. Immediately remove soiled or soaked clothing and remove it to a safe distance. Keep victim warm, in a stabilized position and covered.
Do not leave victims unattended.
If the casualty is unconscious: Place the victim in the recovery position.

Inhalation
Potential for exposure by inhalation if aerosols or mists are generated.
Move victims into fresh air.
With labored breathing: Provide with oxygen. Consult a doctor.
If the casualty is not breathing: Perform mouth-to-mouth resuscitation, notify emergency physician immediately.

Skin contact
Wash off affected area immediately with plenty of water for at least 15 minutes.
If symptoms persist, consult a physician for treatment.

Eye contact
With eye held open, thoroughly rinse immediately with plenty of water for at least 10 minutes.
Consult an ophthalmologist immediately if the symptoms persist.
When dealing with caustic substances, notify emergency physician immediately (key words: burns in eye).

Ingestion
Rinse mouth.
Immediately give large quantities of water to drink.

Obtain medical attention.
When dealing with caustic substances, notify emergency physician immediately.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms
Irritation of skin and mucous membranes
Causes burns.
daze,
headache, dizziness, somnolence (drowsiness), nausea.
Health injuries may be delayed.

Hazards
Srongly irritating to corrosive.Harmful in contact with skin and if swallowed.
.Vapours may cause drowsiness and dizziness.

4.3. Indication of any immediate medical attention and special treatment needed
The initial focus is only on the local action, characterized by quickly progressing deep tissue damage.
In the eye, caustic/ irritating and harmful liquids cause, depending on the intensity of exposure, various levels of irritation, destruction, and ablation of the epithelium of the conjunctiva and cornea, corneal clouding, edema and ulcerations.
Danger! Possible loss of eyesight!
Superficial irritations and damage up to ulcerations and scarring develop on the skin.
After accidental absorption in the body, the pathology and clinical findings are dependent on the kinetics of the substance (quantity of absorbed substance, the absorption time, and the effectiveness of early elimination measures (first aid)/ excretion - metabolism).
A specific action of the substance is unknown.
In case of substances with high water solubility, irritations up to formation of necrosis in the upper respiratory tract may result after inhalation of caustic/ irritating aerosols and mists.
The initial focus is on the local action: signs of irritation of the respiratory tract such as coughing, burning behind the sternum, tears, burning in the eyes or nose.
There is a risk of pulmonary edema!

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5. Fire-fighting measures

5.1. Extinguishing media

Suitable extinguishing media:	Water Foam dry powder Carbon dioxide (CO_2)
Unsuitable extinguishing media:	organic compounds

5.2. Special hazards arising from the substance or mixture
Involved in fire, it may decompose yielding oxygen.
Risk of overpressure and burst due to decomposition in confined spaces and pipes.

5.3. Advice for firefighters
In case of fire, remove the endangered containers and bring to a safe place, if this can be done safely.
In the case of fire, cool the containers that are at risk with water or dilute with water (flooding).
Water used to extinguish fire should not enter drainage systems, soil or stretches of water.
Contaminated extinguishing water must be treated at a suitable disposal plant in accordance with waste management laws.
Fire residues should be disposed of in accordance with the regulations.
Keep out unprotected persons.
In the event of fire, wear self-contained breathing apparatus.
full protective suit

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6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Keep unauthorized persons away.

6.2. Environmental precautions

Do not permit to enter into surface water, stretches of water undiluted.
If the product contaminates rivers and lakes or drains inform respective authorities.

6.3. Methods and material for containment and cleaning up

Absorb with liquid-binding material (e.g. inert absorbent universalbinder) pick up.
Rinse away any residue with plenty of water.
Pack and label wastes like the pure substance. Do not detach label from the delivery containers prior to disposal.
Disposal according to local authority regulations.

Additional advice

Isolate defective containers immediately, if possible and safe to do.Shut off leak, if possible and safe to do.Place defective containers in waste receptacle (waste packaging receptacle) made of plastic (not metal).Do not seal defective containers or waste receptacles airtight (danger of bursting due to product decomposition).

Observe regulations on prevention of water pollution (check, dam up, cover up).

Product taken out should not be returned into container.Never return spilled product into its original container for re-use. (Risk of decomposition.).

6.4. Reference to other sections

Wear personal protective equip ment; see section 8.

7. Handling and storage

7.1. Precautions for safe handling

Handle in accordance with good industrial hygiene and safety practice. Avoid impurities and heat effect.
Avoid residues of the product on the containers.
Never return spilled product into its original container for re-use. (Risk of decomposition.).Wear personal protective equipment.
Avoid contact with skin and eyes.
Do not inhale vapour, aerosols, mist.
Ensure there is good room ventilation.
Immediately change moistened and saturated work clothes. Provide for installation of emergency shower and eye bath.
Set up safety and operation procedures.

7.2. Conditions for safe storage, including any incompatibilities

Advice on protection against fire and explosion

Avoid sun rays, heat, heat effect.
Keep away from incompatible substances.
see section 10.

Storage

cool, well ventilated, clean.

Suitable materials	stainless steel (1.4571)
Suitable materials	Plastics
Suitable materials	polyethylene
Suitable materials	Polypropylene
Suitable materials	polytetrafluoroethylene
Suitable materials	poly vi nyl chloride,
Suitable materials	glass
Suitable materials	ceramics.

Corrodes: metals.

Unsuitable materials	Iron

Unsuitable materials	Copper
Unsuitable materials	brass
Unsuitable materials	Bronze
Unsuitable materials	Aluminium
Unsuitable materials	Zinc

Use adequate venting devices on all packages, containers and tanks and check correct operation periodically.
Risk of overpressure and burst due to decomposition in confined spaces and pipes.
Always close container tightly after removal of product.
Do not keep the container sealed.
Ensure tightness at all times. Avoid leackage.
Transport and store container in upright position only.
Do not empty container by means of pressure.

Further information
For detailed information on design specifications for the construction of tank- and dosing installations ask the producer for advice.
Protect from sunlight, warmth and heat.
In order to ensure due transportation, make certain that stacks are of the correct height, containers are securely fastened so as not to fall off, and labelled according to the regulations.

Advice on common storage
Do not store together with: metallic salts, alkalis, reducing agents.

7.3. Specific end use(s)

For more details see annexes Exposure scenario.

8. Exposure controls/personal protection

8.1. Control parameters

• **hydrogen peroxide solution**			
CAS-No. Control parameters	7722-84-1 1 ppm 1.4 mg/m3	EC-No.	231-765-0 Time Weighted Average (TWA):(EH40 WEL)
Control parameters	2 ppm 2.8 mg/m3		Short Term Exposure Limit (STEL):(EH40 WEL)
• **Acetic acid**			
CAS-No. Control parameters	64-19-7 10 ppm 25 mg/m3 Indicative	EC-No.	200-580-7 Time Weighted Average (TWA):(EU ELV)

DNEL/DMEL values

End Use	Workers
Routes of exposure	Inhalation
Possible health damage	Long-term - systemic effects Long-term - local effects
Value	0.6 mg/m3
End Use	Workers
Routes of exposure	Inhalation
Possible health damage	Acute - systemic effects Acute - local effects
Value	0.6 mg/m3
End Use	Workers
Routes of exposure	dermal
Possible health damage	Acute - local effects

Value	12000 mg/kg
End Use	general populace
Routes of exposure	Inhalation
Possible health damage	Long-term - systemic effects
	Long-term - local effects
Value	0.6 mg/m3
End Use	general populace
Routes of exposure	Inhalation
Possible health damage	Acute - systemic effects
Value	0.6 mg/m3
End Use	general populace
Routes of exposure	Inhalation
Possible health damage	Acute - local effects
Value	0.3 mg/m3
End Use	general populace
Routes of exposure	dermal
Possible health damage	Acute - local effects
Value	12000 mg/kg

PNEC values

	Fresh water
Value	0.000224 mg/l
	STP
Value	0.051 mg/l
	Fresh water sediment
Value	0.00018 mg/l
	Soil
Value	320 µg/kg dry weight

8.2. Exposure controls

Engineering measures
Ensure suitable suction/aeration at the work place and with operational machinery.
Provide for installation of emergency shower and eye bath.

Exposure controls
Suitable measuring processes are:
Hydrogen peroxide
OSHA method ID 006
OSHA method VI-6
Acetic acid
NIOSH method 1603
OSHA method ID 186

Personal protective equipment

Respiratory protection
Do not inhale vapour, aerosols, mist.
In case of larger quantities: If open handling is unavoidable:
If workplace exposure limit is exceeded apply Respiratory protective equipment.
wear a self contained respiratory apparatus
Respirator with A2B2E2K1P2 combination filter (Draeger)
Respirator with OV/AG combination filter (3M)
Respirator with ABEK2P3 combination filter (3M)
If necessary: Local ventilation.
Note time limit for wearing respiratory protective equipment.

Hand protection
disposable gloves
Applies to handling for brief periods or of small amounts

Glove material	Natural Rubber/ Natural latex (NR)
Material thickness	0.22 mm
Break through time	> 480 min
Method	DIN EN 374

Applies to handling for longer periods or of large amounts

Glove material	Polychloroprene (PCP), for example: Camapren 720, Kächele-Cama Latex GmbH (KCL), Germany
Material thickness	0.65 mm
Break through time	> 480 min
Method	DIN EN 374

Eye protection
Safety glasses with side-shields conforming to EN166
or
When handling larger quantities: basket-shaped glasses

Skin and body protection
Usual lab protective clothing
or
When handling larger quantities: chemical protective suit, disposable protective suit

Hygiene measures
Avoid contact with skin and eyes.
Ensure there is good room ventilation.
Do not eat, drink, smoke, or sniff while at work. Wash your hands and/or face before breaks and before termination of work.
Avoid contaminating clothes with product.
Immediately change moistened and saturated work clothes.
Immediately rinse contaminated or saturated clothing with water.
Any contaminated protective equipment is to be cleaned after use.
Apply adequate skin protection agents before handling the product. Assure skin cleaning and skin care after work. Preventive skin protection is recommended.

Protective measures
Handle in accordance with good industrial hygiene and safety practice.
If there is the possibility of skin/eye contact, the indicated hand/eye/body protection should be used.
The work-place related airborne concentrations have to be kept below of the indicated exposure limits.
If workplace exposure limits are exceeded and/or larger amounts are released (leakage, spilling, dust) the indicated respiratory protection should be used.
The personal protective equipment used must meet the requirements of directive 89/686/EEC and amendments (CE certification).
It should be defined in the work place in the form of a risk analysis according to directive 89/686/EEC and amendments.

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9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance		
Form	liquid	
Colour	colourless, clear	
physical state	liquid	
Odour	slightly of acetic acid	
Odour threshold:	No data available	
pH	ca. 1.4	(20 °C)
	Medium:	Product

Melting point/range	ca. -15 °C
Boiling point/range	not applicable
Flash point	not applicable
Evaporation rate	No data available
Flammability (solid, gas)	Not combustible.
Lower explosion limit	no data available
Upper explosion limit	no data available
Vapour pressure	No data available
Density	ca. 1.03 g/cm3 (20 °C)
Relative density	No data available
Water solubility	No data available
Miscibility in water	completely miscible
Partition coefficient: n-octanol/water	No data available
Autoinflammability	The substance or mixture is not classified as self heating.
Thermal decomposition	No data available
Viscosity, dynamic	No data available
Explosiveness	No data available
Oxidizing properties	no data available

9.2. Other information

Ignition temperature	not applicable
Metal corrosion	< 6.25 mm/a Method: NACE standard TM 0169-95 AlZnMgCu 1.5; W. No. 3.4365 < 6.25 mm/a Method: NACE standard TM 0169-95 Carbon steel St 37 -2, S235JR, Mat. No. 1.0037
speed of hydrolysis	half-life period: 48 h (25 °C) (pH 4) Method: 92/69/EEC, C.7 half-life period: 48 h (25 °C) (pH 7) Method: 92/69/EEC, C.7 half-life period: 3.6 h (25 °C) (pH 9) Method: 92/69/EEC, C.7 tested substance: peracetic acid

Vapour density	No data available

10. Stability and reactivity

10.1. Reactivity
Risk of self-accelerating, exothermic decomposition with the development of oxygen, at, Effect of thermal energy / heat.

10.2. Chemical stability
Stable at room temperature. Product is supplied in stabilised form.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions	Risk of overpressure and burst due to decomposition in confined spaces and pipes. Risk of decomposition in contact with incompatible substances, impurities, metals, alkalis, reducing agents.

10.4. Conditions to avoid
sun rays, heat, heat effect

10.5. Incompatible materials
impurities, decomposition catalysts, metals, nonferrous heavy metal, aluminium, zinc., metals, metallic salts, alkalis, reducing agents,, (Risk of decomposition.).

10.6. Hazardous decomposition products
decomposition products Under conditions of thermal decomposition:
Steam
Oxygen
Acetic acid

11. Toxicological information

11.1. Information on toxicological effects

Skin irritation	Skin irritation
Eye irritation	Irreversible effects on the eye

Toxicological information on components
Peracetic acid / Hydrogen peroxide
No toxicological tests are available on the product.

Acute inhalation toxicity	No data available	
Acute dermal toxicity	Assessment:	no data available
Skin irritation	Rabbit / 4 h Corrosive	
	Method:	OECD Test Guideline 404
	Test substance:	peracetic acid 5 %
	Rabbit / 4 h irritating	
	Method:	no OECD method.
	Test substance:	hydrogen peroxide, 35 %
Eye irritation	Rabbit Corrosive	
	Method:	US-EPA-m ethod
	Test substance:	peracetic acid 17 %

Sensitization	Maximization test guinea pig: Does not cause skin sensitisation. Method: OECD Test Guideline 406 Test substance: peracetic acid 10 %
Repeated dose toxicity	Oral Rat(male/female) / 13 weeks Testing period: 92 - 93 d NOAEL: 1.17 mg/kg Method: OECD 408 Test substance: peracetic acid 100 %
Assessment of STOT single exposure	Assessment: No data available
Assessment of STOT repeat exposure	no evidence for hazardous properties
Risk of aspiration toxicity	Not relevant
Gentoxicity in vitro	Ames test Salmonella typhimurium negative Metabolic activation: with or without Method: OECD 471 Test substance: peracetic acid 5 % HGPRT-Test Chinese hamster (V 79 -cells) negative Metabolic activation: with or without Method: OECD 476 Test substance: peracetic acid 11 % chromosomal aberration Chinese hamster (V 79 -cells) negative Metabolic activation: with or without Method: OECD 473 Test substance: peracetic acid 11 % Unscheduled DNA synthesis -test (UDS) human diploid fibroblasts negative Metabolic activation: without Method: OECD TG 482 Test substance: peracetic acid 42 % literature
Gentoxicity in vivo	Micronucleus test Mouse Oral 30 hours negative Method: OECD TG 474 Test substance: peracetic acid 5 % chromosomal aberration Mouse Oral negative Method: Mutagenicity (micronucleus test) Test substance: peracetic acid 5 % Unscheduled DNA synthesis -test (UDS) Rat Oral negative Method: OECD TG 486 Test substance: peracetic acid 5 %
Carcinogenicity	No data available not mutagenic

Toxicity to reproduction	Prenatal development toxicity study Oral Rat / 14 days
NOAEL (No Observed Adverse Effect Level) of parents:	12.5 mg/kg
NOAEL F1:	30.4 mg/kg
Method:	OECD TG 414
Test substance:	peracetic acid 100 %

12. Ecological information

12.1. Toxicity

Toxicity to fish	LC50 Oncorhynchus mykiss: 0.53 mg/l / 96 h
Test substance:	peracetic acid 100 %
Method:	OECD Test Guideline 203
Toxicity in aquatic invertebrates	EC50 static test Daphnia magna: 0.18 mg/l / 24 h
Test substance:	peracetic acid 100 %
Method:	ISO 6341 literature
Toxicity to algae	EC50 static test Pseudokirchneriella subcapitata (aglae): 0.16 mg/l / 72 h
End point:	growth rate
Test substance:	peracetic acid 100 %
Method:	US-EPA-m ethod
	NOEC static test Pseudokirchneriella subcapitata (aglae): 0.061 mg/l / 72 h
End point:	growth rate
Test substance:	peracetic acid 100 %
Method:	US-EPA-m ethod
Toxicity to bacteria	EC50 static test Activat ed sludge: 38.6 mg/l / 3 h
Test substance:	peracetic acid 100 %
Method:	OECD 209
	EC50 static test Activat ed sludge: 5.1 mg/l / 3 h
Test substance:	peracetic acid 100 %
Method:	OECD 209
chronic toxicity in fish	NOEC flow-through test Danio rerio: 0.00094 mg/l / 33 d
Test substance:	peracetic acid 100 %
Method:	OECD TG 210
chronic toxicity in daphnia	NOEC semi-static test Daphnia magna: 0.05 mg/l / 21 d
Test substance:	peracetic acid 100 %
Method:	OECD 211

12.2. Persistence and degradability

photo-decomposition	Photochemical degradation (air) takes place.
	tested substance: Hydrogen peroxide

Biodegradability	aerobic	
	inoculum:	activated sludge
	Exposure time:	28 d
	Result:	98 % Readily biodegradable.
	Test substance:	peracetic acid 40 %
	Method:	OECD TG 301 E
	At non-bacteriotoxic concentrations	
	aerobic	
	inoculum:	activated sludge
	Exposure time:	3 min
	Result:	100 % Totally biodegradable
	Test substance:	peracetic acid 40 %
	Method:	OECD TG 209
AOX	The product does not contain any organically bonded halogen.	
Further Information	Under ambient conditions quick hydrolysis, Reduction or decomposition occurs. The following substances are formed: oxygen and water. The following substances are formed: oxygen, water, acetic acid. Acetic acid is easily biodegradable	

12.3. Bioaccumulative potential

Bioaccumulation	low log Pow: see chapter 9

12.4. Mobility in soil

Mobility	No data available

12.5. Results of PBT and vPvB assessment

Not a PBT, vPvB substance as per the criteria of the REACH Regulation.

12.6. Other adverse effects

Further Information	Does not contain any heavy metals and compounds from EC directive 76/464 e.g. arsenic-, lead cadmium Mercury organic halogen compounds organic compounds

Ecotoxicology Assessment

Acute aquatic toxicity	Harmful to aquatic life.
Chronic aquatic toxicity	Toxic to aquatic life with long lasting effects.

13. Disposal considerations

13.1. Waste treatment methods

Product

This product must be disposed of as an organic chemical in accordance with the regulations issued by the appropriate local authorities.
Offer surplus and non-recyclable solutions to a licensed disposal company.

If necessary:

With small amounts:

May be disposed of as sewage water in accordance with local legal regulations by previously diluting with plenty of water. (drainage systems, sewage treatment plant

If necessary contact the relevant authorities.

Uncleaned packaging

Rinse empty containers with water prior to disposal.
Offer rinsed packaging material to local recycling facilities.
Do not reuse empty containers and dispose of in accordance with the regulations issued by the appropriate local authorities.

Waste Key Number

The waste key number must be determined as per the European Waste Types List (decision on EU Waste Types List 2000/532/EC) in cooperation with the disposal firm / producing firm / official authority.

14. Transport information

Transport on land (ADR/RID/GGVSEB)

14.1.	UN number:	UN 3082
14.2.	UN proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(contains Peracetic acid, stabilized)
14.3.	Transport hazard class(es):	9
14.4.	Packing group:	III
14.5.	Environmental hazards:	Yes
14.6.	Special precautions for user:	Yes

ADR: Tunnel Restriction Code: (E)
Protect from thermal radiation.

Inland waterway transport (ADN/GGVSEB (Germany))

14.1.	UN number:	UN 3082
14.2.	UN proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(contains Peracetic acid, stabilized)
14.3.	Transport hazard class(es):	9
14.4.	Packing group:	III
14.5.	Environmental hazards:	Yes
14.6.	Special precautions for user:	Yes

Protect from thermal radiation.

Air transport ICAO-TI/IATA-DGR

14.1.	UN number:	UN 3082
14.2.	UN proper shipping name:	Environmentally hazardous substance, liquid, n.o.s.(contains Peracetic acid, stabilized)
14.3.	Transport hazard class(es):	9
14.4.	Packing group:	III
14.5.	Environmental hazards:	Yes
14.6.	Special precautions for user:	Yes

IATA-C: ERG-Code 9L
IATA-P: ERG-Code 9L

Protect from thermal radiation.

Sea transport IMDG-Code/GGVSee (Germany)

14.1.	UN number:	UN 3082
14.2.	UN proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(contains Peracetic acid, stabilized)
14.3.	Transport hazard class(es):	9
14.4.	Packing group:	III
14.5.	Environmental hazards:	Yes
14.6.	Special precautions for user:	Yes
	EmS:	F-A,S-F

Protect from thermal radiation.

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:
for transportapproval see regulatory information

15. Regulatory information

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

National legislation

Water contaminating class (Germany)	WGK 1 - slightly water endangering Classification according to VwVwS, supplement 4
Regulations on labour safety:	It must be determined whether preventi vesubstance-specific occupational medical examinations in accordance with national law in each case must be offered / carried out at regular intervals.
employment restriction	Please note Directive 92/85/EEC (Pregnant Workers Directive) and amendments. Please note Directive 94/33/EC (Protection of Young Workers at the Workplace Directive) and amendments. Observe national regulations.
Other regulations	Please observe Appendix XVII of the EU Regulation 1907/2006 (Restrictions on the manufacture, placing on the market, and use of certain dangerous substances, preparations and articles) as well as their amendments.

registration

Europe (EINECS/ELINCS)	listed/registered all ingredients listed
USA (TSCA)	listed/registered all ingredients listed
Canada (DSL)	listed/registered all ingredients listed
Philippines (PICCS)	listed/registered all ingredients listed
New Zealand	listed/registered all ingredients listed
Korea	listed/registered all ingredients listed
China	listed/registered all ingredients listed
Australia (AICS)	listed/registered all ingredients listed

15.2. Chemical safety assessment

Chemical safety assessment	A substance safety assessment was carried out for this product.

16. Other information

Risk phrase (R phrase) texts

- **Peracetic acid**

R10	Flammable.
R 7	May cause fire.
R20/21/22	Harmful by inhalation, in contact with skin and if swallowed.
R35	Causes severe burns.
R50	Very toxic to aquatic organisms.

- **hydrogen peroxide solution**

R 5	Heating may cause an explosion.
R 8	Contact with combustible material may cause fire.
R35	Causes severe burns.
R20/22	Harmful by inhalation and if swallowed.

- **Acetic acid**

R10	Flammable.
R35	Causes severe burns.

Texts of the H-phrases

- **Peracetic acid**

H226	Flammable liquid and vapour.
H242	Heating may cause a fire.
H331	Toxic if inhaled.
H312	Harmful in contact with skin.
H301	Toxic if swallowed.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H335	May cause respiratory irritation.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

- **Hydrogen peroxide solution**

H271	May cause fire or explosion; strong oxidiser.
H332	Harmful if inhaled.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H412	Harmful to aquatic life with long lasting effects.

- **Acetic acid**

H226	Flammable liquid and vapour.
H314	Causes severe skin burns and eye damage.

Further information

Further information	Assessment of hazardous properties and decision regarding classification as per VO EG 1272/2008 Chap. 2.

Changes since the last version are highlighted in the margin. This version replaces all previous versions.

InSpec OX SAFETY DATA SHEET (EC 1907/2006)

Version 3.0 EN
Revision date 1 June 2015
Print date 2 June 2015

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InSpec OX SAFETY DATA SHEET (EC 1907/2006)

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Legend

ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ASTM	American Society for Testing and Materials
ATP	Adaptation to Technical Progress
BCF	Bioconcentration factor
BetrSichV	German Ordinance on Industrial Safety and Health
c.c.	closed cup
CAS	Chemical Abstract Services
CESIO	European Committee of Organic Surfactants and their Intermediates
ChemG	German Chemicals Act
CMR	carcinogenic-mutagenic-toxic for reproduction
DIN	German Institute for Standardization
DMEL	Derived minimum effect level
DNEL	Derived no effect level
EINECS	European Inventory of Existing Commercial Chemical Substances
EC50	half maximal effective concentration
GefStoffV	German Ordinance on Hazardous Substances
GGVSEB	German ordinance for road, rail and inland waterway transportation of dangerous goods
GGVSee	German ordinance for sea transportation of dangerous goods
GLP	Good Laboratory Practice
GMO	Genetic Modified Organism
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods
ISO	International Organization For Standardization
LOAEL	Lowest observed adverse effect level
LOEL	Lowest observed effect level
NOAEL	No observed adverse effect level
NOEC	no observed effect concentration
NOEL	no observed effect level
o. c.	open cup
OECD	Organisation for Economic Cooperation and Development
OEL	Occupational Exposure Limit
PBT	Persistent, bioaccumulative, toxic
PEC	Predicted effect concentration
PNEC	Predicted no effect concentration
REACH	REACH registration
RID	Convention concerning International Carriage by Rail
STOT	Specific Target Organ Toxicity
SVHC	Substances of Very High Concern
TA	Technical Instructions
TPR	Third Party Representative (Art. 4)
TRGS	Technical Rules for Hazardous Substances
VCI	German chemical industry association
vPvB	very persistent, very bioaccumulative
VOC	volatile organic compounds
VwVwS	German Administrative Regulation on the Classification of Substances Hazardous to Waters into Water Hazard Classes
WGK	Water Hazard Class

Annex: Exposure Scenarios - Table of content

ES1 - Use: Formulation of PAA (industrial worker)

Main User Group	:	**SU3 -** Industrial uses: Uses of substances as such or in preparations at industrial sites
Environmental release category	:	**ERC2 -** Formulation of preparations
Sector of use	:	**SU9-** Manufacture of fine chemicals **SU10-** Formulation [mixing] of preparations and/or re-packaging (excluding alloys)
Process category	:	**PROC3 -** Use in closed batch process (synthesis or formulation) **PROC5 -** Mixing or blending in batch processes for formulation of preparations and articles (multistage and/ or significant contact) **PROC8a -** Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities **PROC8b -** Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities **PROC9 -** Transfer of substance or preparation into small containers (dedicated filling line, including weighing)

ES2 - Use: Formulation of PAA (professional worker)

Main User Group	:	**SU22 -** Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Environmental release category	:	**ERC2 -** Formulation of preparations
Sector of use	:	**SU9-** Manufacture of fine chemicals **SU10-** Formulation [mixing] of preparations and/or re-packaging (excluding alloys)
Process category	:	**PROC3 -** Use in closed batch process (synthesis or formulation) **PROC5 -** Mixing or blending in batch processes for formulation of preparations and articles (multistage and/ or significant contact) **PROC8a -** Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities **PROC8b -** Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities **PROC9 -** Transfer of substance or preparation into small containers (dedicated filling line, including weighing)

ES3 - Use: Use in chemical synthesis (Industrial use of reactive processing aids)

Environmental release category	:	**ERC6b -** Industrial use of reactive processing aids
Sector of use	:	**SU9-** Manufacture of fine chemicals
Process category	:	**PROC1 -** Use in closed process, no likelihood of exposure **PROC2 -** Use in closed, continuous process with occasional controlled exposure **PROC3 -** Use in closed batch process (synthesis or formulation) **PROC4 -** Use in batch and other process (synthesis) where opportunity for exposure arises **PROC8a -** Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities **PROC8b -** Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities **PROC9 -** Transfer of substance or preparation into small containers (dedicated filling line, including weighing)

ES4 - Use: Use in chemical synthesis (Production of resins/rubbers)

Main User Group	:	**SU3 -** Industrial uses: Uses of substances as such or in preparations at industrial sites
Environmental release category	:	**ERC6d -** Industrial use of process regulators for polymerisation processes in production of resins, rubbers, polymers
Sector of use	:	**SU9-** Manufacture of fine chemicals
Process category	:	**PROC1 -** Use in closed process, no likelihood of exposure **PROC2 -** Use in closed, continuous process with occasional controlled exposure **PROC3 -** Use in closed batch process (synthesis or formulation) **PROC4 -** Use in batch and other process (synthesis) where opportunity for exposure arises **PROC8a -** Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities **PROC8b -** Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities **PROC9 -** Transfer of substance or preparation into small containers (dedicated filling line, including weighing)

ES5 - Use: Bleaching of starch (Industrial use of reactive processing aids)

Main User Group	:	**SU3 -** Industrial uses: Uses of substances as such or in preparations at industrial sites

Sector of use	:	**SU4-** Manufacture of food products **SU9-** Manufacture of fine chemicals
Process category	:	**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 **PROC15 -** Use as laboratory reagent

ES6 - Use: Bleaching of starch (Industrial use of intermediates)

Main User Group	:	**SU3 -** Industrial uses: Uses of substances as such or in preparations at industrial sites
Environmental release category	:	**ERC6a -** Industrial use resulting in manufacture of another substance (use of intermediates)
Sector of use	:	**SU4-** Manufacture of food products **SU9-** Manufacture of fine chemicals
Process category	:	**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 **PROC15 -** Use as laboratory reagent

ES7 - Use: Laundry bleach

Main User Group	:	**SU22 -** Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Environmental release category	:	**ERC8b -** Wide dispersive indoor use of reactive substances in open systems
Process category	:	**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)

ES8 - Use: Disinfection of medical devices

Main User Group	:	**SU22 -** Professional uses: Public domain (administration,

education, entertainment, services, craftsmen)

Sector of use	:	**SU20-** Health services
Process ca	Version 3.0 EN Revision date 1 June 2015 Print date 2 June 2015	Version 3.0 EN Revision date 1 June 2015 Print date 2 June 2015

ES9 - Use: Room disinfection (Wide dispersive indoor use of processing aids in open systems)

Main User Group	:	**SU22 -** Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Environmental release category	:	**ERC8a -** Wide dispersive indoor use of processing aids in open systems
Sector of use	:	**SU20-** Health services
Process category	:	**PROC9 -** Transfer of substance or preparation into small containers (dedicated filling line, including weighing) **PROC11 -** Non industrial spraying

ES10 - Use: Room disinfection (Wide dispersive indoor use of reactive substances in open systems)

Main User Group	:	**SU22 -** Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Environmental release category	:	**ERC8b -** Wide dispersive indoor use of reactive substances in open systems
Sector of use	:	**SU20-** Health services
Process category	:	**PROC9 -** Transfer of substance or preparation into small containers (dedicated filling line, including weighing) **PROC11 -** Non industrial spraying

ES11 - Use: Disinfection of dialysis membranes

Main User Group	:	**SU22 -** Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Environmental release category	:	**ERC8b -** Wide dispersive indoor use of reactive substances in open systems
Sector of use	:	**SU20-** Health services
Process category	:	**PROC9 -** Transfer of substance or preparation into small containers (dedicated filling line, including weighing)

ES12 - Use: Laboratory agent (industrial use)

Main User Group	:	**SU3 -** Industrial uses: Uses of substances as such or in preparations at industrial sites
Environmental release category	:	**ERC6b -** Industrial use of reactive processing aids
Sector of use	:	**SU9-** Manufacture of fine chemicals
Process category	:	**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 **PROC9 -** Transfer of substance or preparation into small containers (dedicated filling line, including weighing) **PROC15 -** Use as laboratory reagent

ES13 - Use: Laboratory agent (professional use)

Main User Group	:	**SU22 -** Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Environmental release category	:	**ERC8b -** Wide dispersive indoor use of reactive substances in open systems
Sector of use	:	**SU24-** Scientific research and development
Process category	:	**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 **PROC9 -** Transfer of substance or preparation into small containers (dedicated filling line, including weighing) **PROC15 -** Use as laboratory reagent

1. Short title of exposure scenario - ES1: Formulation of PAA (industrial worker)

Main User Group	:	**SU3 -** Industrial uses: Uses of substances as such or in preparations at industrial sites
Environmental release category	:	**ERC2 -** Formulation of preparations
Sector of use	:	**SU9 -** Manufacture of fine chemicals **SU10 -** Formulation [mixing] of preparations and/or re-packaging (excluding alloys)
Process category	:	**PROC3 -** Use in closed batch process (synthesis or formulation) **PROC5 -** Mixing or blending in batch processes for formulation of preparations and articles (multistage and/ or significant contact) **PROC8a -** Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities **PROC8b -** Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities **PROC9 -** Transfer of substance or preparation into small containers (dedicated filling line, including weighing)

2.1. Contributing scenario controlling environmental exposure for:
ERC2: Formulation of preparations

Amount used

Daily amount per site	:	5 tons/day
Annual amount per site	:	50 tons/year
Value Type (Msafe) - Daily amount per site	:	71.4 tons/day
Remarks	:	freshwater, freshwater sediment
Value Type (Msafe) - Daily amount per site	:	17200.00 tons/day
Remarks	:	soil

Frequency and duration of use

Single exposure	:	10 days/year

Environmental factors not influenced by risk management

Flow rate	:	18000 m³/d

Other given operational conditions affecting environmental exposure

Number of emission days per year	:	10
Emission or Release Factor: Air	:	2.5 %
Emission or Release Factor: Water	:	0 %
Emission or Release Factor: Soil	:	0.01 %
Remarks	:	Technical measures prevent any emission to waste water.
Release rate applicable to air	:	125 kg/day

Conditions and measures related to municipal sewage treatment plant

Type of Sewage Treatment Plant	:	Municipal STP
Flow rate of sewage treatment plant effluent	:	2000 m³/d
Sludge Treatment	:	sludge to soil

2.2. Contributing scenario controlling worker exposure for:
PROC3: Use in closed batch process (synthesis or formulation)

Product characteristics

Remarks	:	peracetic acid, 15 %
Physical Form (at time of use)	:	liquid

Frequency and duration of use

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

Other given operational conditions affecting worker exposure

Outdoor / Indoor	:	indoor

Technical conditions and measures

Local exhaust
Effectiveness: 98 %

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

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

2.3. Contributing scenario controlling worker exposure for:
PROC5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact)

Product characteristics

Remarks	:	peracetic acid, 15 %
Physical Form (at time of use)	:	liquid

Frequency and duration of use

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

Other given operational conditions affecting worker exposure

Outdoor / Indoor	:	indoor

Technical conditions and measures

Local exhaust
Effectiveness: 98 %

Conditions and measures related to personal protection, hygiene and health evaluation
Wear suitable gloves (tested to EN374) and eye protection.

2.4. Contributing scenario controlling worker exposure for:

PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities

Product characteristics

Remarks	:	peracetic acid, 15 %
Physical Form (at time of use)	:	liquid

Frequency and duration of use

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

Other given operational conditions affecting worker exposure

Outdoor / Indoor	:	indoor

Technical conditions and measures
Local exhaust
Effectiveness: 98 %

Conditions and measures related to personal protection, hygiene and health evaluation
Wear suitable gloves (tested to EN374) and eye protection.

2.5. Contributing scenario controlling worker exposure for:

PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities.

Product characteristics

Remarks	:	peracetic acid, 15 %
Physical Form (at time of use)	:	liquid

Frequency and duration of use

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

Other given operational conditions affecting worker exposure

Outdoor / Indoor	:	indoor

Technical conditions and measures
Local exhaust
Effectiveness: 98 %

Conditions and measures related to personal protection, hygiene and health evaluation
Wear suitable gloves (tested to EN374) and eye protection.

2.6. Contributing scenario controlling worker exposure for:

PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)

Product characteristics

Remarks : peracetic acid, 15 %
Physical Form (at time of use) : liquid

Frequency and duration of use

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

Other given operational conditions affecting worker exposure

Outdoor / Indoor : indoor

Technical conditions and measures

Local exhaust
Effectiveness: 98 %

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

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

3. Exposure estimation and reference to its source

Environment

Contributing Scenario	Exposure Assessment Method	Specific conditions	Compartment	Level of Exposure	RCR	Remarks
ERC2	EUSES v2.1		freshwater	0.016 µg/l	0.070009	
ERC2	EUSES v2.1		freshwater sediment	0.059 µg/kg dry weight	0.070018	
ERC2	EUSES v2.1		Soil	0.075 µg/kg dry weight	0.000235	
ERC2	EUSES v2.1		grassland	0.093 µg/kg dry weight	0.00029	

Workers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value type	Level of Exposure	RCR	Remarks
PROC3	EASYTRA		Worker - inhalative, long-term - local	0.0951 mg/m³	0.158438	
PROC5	EASYTRA		Worker - inhalative, long-term - local	0.4753 mg/m³	0.792188	
PROC8a	EASYTRA		Worker - inhalative, long-term - local	0.4753 mg/m³	0.792188	
PROC8b	EASYTRA		Worker - inhalative, long-term - local	0.2377 mg/m³	0.396094	
PROC9	EASYTRA		Worker - inhalative, long-term - local	0.4753 mg/m³	0.792188	

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

For scaling see:
If necessary, an increase in the use tonnage can be achieved by adapting the use conditions to local circumstances (scaling)., Confer with the producer.

1. Short title of exposure scenario - ES2: Formulation of PAA (professional worker)

Main User Group	:	**SU22 -** Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Environmental release category	:	**ERC2 -** Formulation of preparations
Sector of use	:	**SU9 -** Manufacture of fine chemicals **SU10 -** Formulation [mixing] of preparations and/or re-packaging (excluding alloys)
Process category	:	**PROC3 -** Use in closed batch process (synthesis or formulation) **PROC5 -** Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact) **PROC8a -** Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities **PROC8b -** Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities **PROC9 -** Transfer of substance or preparation into small containers (dedicated filling line, including weighing)

2.1. Contributing scenario controlling environmental exposure for:
ERC2: Formulation of preparations

Amount used

Daily amount per site	:	5 tons/day
Annual amount per site	:	50 tons/year
Value Type (Msafe) - Daily amount per site	:	71.4 tons/day
Remarks	:	freshwater, freshwater sediment
Value Type (Msafe) - Daily amount per site	:	17200.00 tons/day
Remarks	:	soil

Frequency and duration of use

Single exposure	:	10 days/year

Environmental factors not influenced by risk management

Flow rate	:	18000 m³/d

Other given operational conditions affecting environmental exposure

Number of emission days per year	:	10
Emission or Release Factor: Air	:	2.5 %
Emission or Release Factor: Water	:	0 %
Emission or Release Factor: Soil	:	0.01 %
Remarks	:	Technical measures prevent any emission to waste water.
Release rate applicable to air	:	125 kg/day

Conditions and measures related to municipal sewage treatment plant

Type of Sewage Treatment Plant	:	Municipal STP
Flow rate of sewage treatment plant effluent	:	2000 m³/d
Sludge Treatment	:	sludge to soil

2.2. Contributing scenario controlling worker exposure for:
PROC3: Use in closed batch process (synthesis or formulation)

Product characteristics

Remarks	:	peracetic acid, 15 %
Physical Form (at time of use)	:	liquid

Frequency and duration of use

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

Other given operational conditions affecting worker exposure

Outdoor / Indoor	:	indoor

Technical conditions and measures

Local exhaust
Effectiveness: 98 %

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

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

2.3. Contributing scenario controlling worker exposure for:
PROC5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact)

Product characteristics

Remarks	:	peracetic acid, 15 %
Physical Form (at time of use)	:	liquid

Frequency and duration of use

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

Other given operational conditions affecting worker exposure

Outdoor / Indoor	:	indoor

Technical conditions and measures

Local exhaust
Effectiveness: 98 %

Conditions and measures related to personal protection, hygiene and health evaluation
Wear suitable gloves (tested to EN374) and eye protection.

2.4. Contributing scenario controlling worker exposure for:

PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities

Product characteristics

Remarks	:	peracetic acid, 15 %
Physical Form (at time of use)	:	liquid

Frequency and duration of use

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

Other given operational conditions affecting worker exposure

Outdoor / Indoor	:	indoor

Technical conditions and measures
Local exhaust
Effectiveness: 98 %

Conditions and measures related to personal protection, hygiene and health evaluation
Wear suitable gloves (tested to EN374) and eye protection.

2.5. Contributing scenario controlling worker exposure for:

PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities.

Product characteristics

Remarks	:	peracetic acid, 15 %
Physical Form (at time of use)	:	liquid

Frequency and duration of use

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

Other given operational conditions affecting worker exposure

Outdoor / Indoor	:	indoor

Technical conditions and measures
Local exhaust
Effectiveness: 98 %

Conditions and measures related to personal protection, hygiene and health evaluation
Wear suitable gloves (tested to EN374) and eye protection.

2.6. Contributing scenario controlling worker exposure for:

PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)

Product characteristics

Remarks	:	peracetic acid, 15 %
Physical Form (at time of use)	:	liquid

Frequency and duration of use

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

Other given operational conditions affecting worker exposure

Outdoor / Indoor	:	indoor

Technical conditions and measures

Local exhaust
Effectiveness: 98 %

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

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

3. Exposure estimation and reference to its source

Environment

Contributing Scenario	Exposure Assessment Method	Specific conditions	Compartment	Level of Exposure	RCR	Remarks
ERC2	EUSES v2.1		freshwater	0.016 µg/l	0.070009	
ERC2	EUSES v2.1		freshwater sediment	0.059 µg/kg dry weight	0.070018	
ERC2	EUSES v2.1		Soil	0.075 µg/kg dry weight	0.000235	
ERC2	EUSES v2.1		grassland	0.093 µg/kg dry weight	0.00029	

Workers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value type	Level of Exposure	RCR	Remarks
PROC3	EASYTRA		Worker - inhalative, long-term - local	0.1426 mg/m³	0.237656	
PROC5	EASYTRA		Worker - inhalative, long-term - local	0.5704 mg/m³	0.950625	
PROC8a	EASYTRA		Worker - inhalative, long-term - local	0.5704 mg/m³	0.950625	
PROC8b	EASYTRA		Worker - inhalative, long-term - local	0.2852 mg/m³	0.475313	
PROC9	EASYTRA		Worker - inhalative, long-term - local	0.5704 mg/m³	0.950625	

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

For scaling see:
If necessary, an increase in the use tonnage can be achieved by adapting the use conditions to local circumstances (scaling)., Confer with the producer.

1. Short title of exposure scenario - ES3: Use in chemical synthesis (Industrial use of reactive processing aids)

Main User Group	:	**SU3 -** Industrial uses: Uses of substances as such or in preparations at industrial sites
Environmental release category	:	**ERC6b -** Industrial use of reactive processing aids
Sector of use	:	**SU9 -** Manufacture of fine chemicals
Process category	:	**PROC1 -** Use in closed process, no likelihood of exposure **PROC2 -** Use in closed, continuous process with occasional controlled exposure **PROC3 -** Use in closed batch process (synthesis or formulation) **PROC4 -** Use in batch and other process (synthesis) where opportunity for exposure arises **PROC8a -** Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities **PROC8b -** Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities **PROC9 -** Transfer of substance or preparation into small containers (dedicated filling line, including weighing)

2.1. Contributing scenario controlling environmental exposure for:
ERC6b: Industrial use of reactive processing aids

Amount used

Daily amount per site	:	15 tons/day
Annual amount per site	:	300 tons/year
Value Type (Msafe) - Daily amount per site	:	48.7 tons/day
Remarks	:	freshwater, freshwater sediment
Value Type (Msafe) - Daily amount per site	:	1020 tons/day
Remarks	:	soil
Value Type (Msafe) - Daily amount per site	:	1440 tons/day
Remarks	:	sewage treatment plant

Frequency and duration of use

Single exposure	:	20 days/year

Environmental factors not influenced by risk management

Flow rate	:	18000 m³/d

Other given operational conditions affecting environmental exposure

Number of emission days per year	:	20
Emission or Release Factor: Air	:	0.1 %
Emission or Release Factor: Water	:	5 %
Emission or Release Factor: Soil	:	0.025 %

Release rate applicable to air	:	15 kg/day
Release rate applicable to water	:	750 kg/day
Concentration in untreated wastewaters	:	0.0538 mg/l
Remarks	:	The substance degrades rapidly during the use and when passing the sewer system before entering the sewage treatment plant. The half-live of < 5 min at 20°C (Van Egdom, 2007) and a residence time of 1 hour was taken into account.

Conditions and measures related to municipal sewage treatment plant

Type of Sewage Treatment Plant	:	Municipal STP
Flow rate of sewage treatment plant effluent	:	2000 m³/d
Sludge Treatment	:	sludge to soil

2.2. Contributing scenario controlling worker exposure for:

PROC1: Use in closed process, no likelihood of exposure

Product characteristics

Remarks	:	peracetic acid, 40 %
Physical Form (at time of use)	:	liquid

Frequency and duration of use

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

Other given operational conditions affecting worker exposure

Outdoor / Indoor	:	indoor

Technical conditions and measures

Local exhaust
Effectiveness: 98 %

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

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

2.3. Contributing scenario controlling worker exposure for:

PROC2: Use in closed, continuous process with occasional controlled exposure

Product characteristics

Remarks	:	peracetic acid, 40 %
Physical Form (at time of use)	:	liquid

Frequency and duration of use

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

Other given operational conditions affecting worker exposure
Outdoor / Indoor : indoor

Technical conditions and measures
Local exhaust
Effectiveness: 98 %

Conditions and measures related to personal protection, hygiene and health evaluation
Wear suitable gloves (tested to EN374) and eye protection.

2.4. Contributing scenario controlling worker exposure for:
PROC3: Use in closed batch process (synthesis or formulation)

Product characteristics
Remarks : peracetic acid, 40 %
Physical Form (at time of use) : liquid

Frequency and duration of use
Frequency of use : 4 hours/day
Frequency of use : 5 days/week

Other given operational conditions affecting worker exposure
Outdoor / Indoor : indoor

Technical conditions and measures
Local exhaust
Effectiveness: 98 %

Conditions and measures related to personal protection, hygiene and health evaluation
Wear suitable gloves (tested to EN374) and eye protection.

2.5. Contributing scenario controlling worker exposure for:
PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises

Product characteristics
Remarks : peracetic acid, 40 %
Physical Form (at time of use) : liquid

Frequency and duration of use
Frequency of use : 4 hours/day
Frequency of use : 5 days/week

Other given operational conditions affecting worker exposure
Outdoor / Indoor : indoor

Technical conditions and measures

Local exhaust
Effectiveness: 98 %

Conditions and measures related to personal protection, hygiene and health evaluation
Wear suitable gloves (tested to EN374) and eye protection.

2.6. Contributing scenario controlling worker exposure for:
PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities

Product characteristics

Remarks	:	peracetic acid, 40 %
Physical Form (at time of use)	:	liquid

Frequency and duration of use

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

Other given operational conditions affecting worker exposure

Outdoor / Indoor	:	indoor

Technical conditions and measures
Local exhaust
Effectiveness: 90 %

Conditions and measures related to personal protection, hygiene and health evaluation
Wear suitable gloves (tested to EN374) and eye protection.

2.7. Contributing scenario controlling worker exposure for:
PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities.

Product characteristics

Remarks	:	peracetic acid, 40 %
Physical Form (at time of use)	:	liquid

Frequency and duration of use

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

Other given operational conditions affecting worker exposure

Outdoor / Indoor	:	indoor

Technical conditions and measures
Local exhaust
Effectiveness: 98 %

Conditions and measures related to personal protection, hygiene and health evaluation
Wear suitable gloves (tested to EN374) and eye protection.

2.8. Contributing scenario controlling worker exposure for:
PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)

Product characteristics

Remarks	:	peracetic acid, 40 %
Physical Form (at time of use)	:	liquid

Frequency and duration of use

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

Other given operational conditions affecting worker exposure

Outdoor / Indoor	:	indoor

Technical conditions and measures
Local exhaust
Effectiveness: 90 %

Conditions and measures related to personal protection, hygiene and health evaluation
Wear suitable gloves (tested to EN374) and eye protection.

3. Exposure estimation and reference to its source

Environment

Contributing Scenario	Exposure Assessment Method	Specific conditions	Compartment	Level of Exposure	RCR	Remarks
ERC6B	EUSES v2.1		freshwater	0.069 µg/l	0.30771	
ERC6B	EUSES v2.1		freshwater sediment	0.258 µg/kg dry weight	0.307748	
ERC6B	EUSES v2.1		Soil	0.0956 mg/kg dry weight	0.298764	
ERC6B	EUSES v2.1		grassland	0.0047 mg/kg dry weight	0.014741	
ERC6B	EUSES v2.1		sewage treatment plant (STP)	0.532 µg/l	0.01044	

Workers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value type	Level of Exposure	RCR	Remarks
PROC1	EASYTRA		Worker - inhalative, long-term - local	0.152 µg/m3	0.000253	
PROC2	EASYTRA		Worker - inhalative, long-term - local	0.0761 mg/m³	0.12675	
PROC3	EASYTRA		Worker - inhalative, long-term - local	0.1521 mg/m³	0.2535	
PROC4	EASYTRA		Worker - inhalative, long-term - local	0.3042 mg/m³	0.507	
PROC8a	Used ART model.		Worker - inhalative, long-term - local	0.500 mg/m³	0.833333	
PROC8b	EASYTRA		Worker - inhalative, long-term - local	0.3803 mg/m³	0.63375	
PROC9	Used ART model.		Worker - inhalative, long-term - local	0.21 mg/m³	0.350	

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

For scaling see:
If necessary, an increase in the use tonnage can be achieved by adapting the use conditions to local circumstances (scaling)., Confer with the producer.

1. Short title of exposure scenario - ES4: Use in chemical synthesis (Production of resins/rubbers)

Main User Group	:	**SU3 -** Industrial uses: Uses of substances as such or in preparations at industrial sites
Environmental release category	:	**ERC6d -** Industrial use of process regulators for polymerisation processes in production of resins, rubbers, polymers
Sector of use	:	**SU9 -** Manufacture of fine chemicals
Process category	:	**PROC1 -** Use in closed process, no likelihood of exposure **PROC2 -** Use in closed, continuous process with occasional controlled exposure **PROC3 -** Use in closed batch process (synthesis or formulation) **PROC4 -** Use in batch and other process (synthesis) where opportunity for exposure arises **PROC8a -** Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities **PROC8b -** Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities **PROC9 -** Transfer of substance or preparation into small containers (dedicated filling line, including weighing)

2.1. Contributing scenario controlling environmental exposure for: ERC6d: Industrial use of process regulators for polymerisation processes in production of resins, rubbers, polymers

Amount used

Daily amount per site	:	15 tons/day
Annual amount per site	:	300 tons/year
Value Type (Msafe) - Daily amount per site	:	214 tons/day
Remarks	:	freshwater, freshwater sediment
Value Type (Msafe) - Daily amount per site	:	618 tons/day
Remarks	:	soil
Value Type (Msafe) - Daily amount per site	:	144000 tons/day
Remarks	:	sewage treatment plant

Frequency and duration of use

Single exposure	:	20 days/year

Environmental factors not influenced by risk management

Flow rate	:	18000 m^3/d

Other given operational conditions affecting environmental exposure

Number of emission days per year	:	20

Emission or Release Factor: Air	:	35 %
Emission or Release Factor: Water	:	0.005 %
Emission or Release Factor: Soil	:	0.025 %
Release rate applicable to air	:	5250 kg/day
Release rate applicable to water	:	0.75 kg/day
Concentration in untreated wastewaters	:	0.000054 mg/l
Remarks	:	The substance degrades rapidly during the use and when passing the sewer system before entering the sewage treatment plant. The half-live of < 5 min at 20°C (Van Egdom, 2007) and a residence time of 1 hour was taken into account.

Conditions and measures related to municipal sewage treatment plant

Type of Sewage Treatment Plant	:	Municipal STP
Flow rate of sewage treatment plant effluent	:	2000 m^3/d
Sludge Treatment	:	sludge to soil

2.2. Contributing scenario controlling worker exposure for:

PROC1: Use in closed process, no likelihood of exposure

Product characteristics

Remarks	:	peracetic acid, 40 %
Physical Form (at time of use)	:	liquid

Frequency and duration of use

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

Other given operational conditions affecting worker exposure

Outdoor / Indoor	:	indoor

Technical conditions and measures

Local exhaust
Effectiveness: 98 %

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

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

2.3. Contributing scenario controlling worker exposure for:

PROC2: Use in closed, continuous process with occasional controlled exposure

Product characteristics

Remarks	:	peracetic acid, 40 %
Physical Form (at time of use)	:	liquid

Frequency and duration of use

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

Other given operational conditions affecting worker exposure

Outdoor / Indoor	:	indoor

Technical conditions and measures

Local exhaust
Effectiveness: 98 %

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

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

2.4. Contributing scenario controlling worker exposure for:

PROC3: Use in closed batch process (synthesis or formulation)

Product characteristics

Remarks	:	peracetic acid, 40 %
Physical Form (at time of use)	:	liquid

Frequency and duration of use

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

Other given operational conditions affecting worker exposure

Outdoor / Indoor	:	indoor

Technical conditions and measures

Local exhaust
Effectiveness: 98 %

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

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

2.5. Contributing scenario controlling worker exposure for:

PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises

Product characteristics

Remarks	:	peracetic acid, 40 %
Physical Form (at time of use)	:	liquid

Frequency and duration of use

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

Other given operational conditions affecting worker exposure

Outdoor / Indoor : indoor

Technical conditions and measures
Local exhaust
Effectiveness: 98 %

Conditions and measures related to personal protection, hygiene and health evaluation
Wear suitable gloves (tested to EN374) and eye protection.

2.6. Contributing scenario controlling worker exposure for:
PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities

Product characteristics
Remarks : peracetic acid, 40 %
Physical Form (at time of use) : liquid

Frequency and duration of use
Frequency of use : 4 hours/day
Frequency of use : 5 days/week

Other given operational conditions affecting worker exposure
Outdoor / Indoor : indoor

Technical conditions and measures
Local exhaust
Effectiveness: 90 %

Conditions and measures related to personal protection, hygiene and health evaluation
Wear suitable gloves (tested to EN374) and eye protection.

2.7. Contributing scenario controlling worker exposure for:
PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities.

Product characteristics
Remarks : peracetic acid, 40 %
Physical Form (at time of use) : liquid

Frequency and duration of use
Frequency of use : 4 hours/day
Frequency of use : 5 days/week

Other given operational conditions affecting worker exposure
Outdoor / Indoor : indoor

Technical conditions and measures
Local exhaust

Effectiveness: 98 %

Conditions and measures related to personal protection, hygiene and health evaluation
Wear suitable gloves (tested to EN374) and eye protection.

2.8. Contributing scenario controlling worker exposure for:
PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)

Product characteristics
Remarks : peracetic acid, 40 %
Physical Form (at time of use) : liquid

Frequency and duration of use
Frequency of use : 4 hours/day
Frequency of use : 5 days/week

Other given operational conditions affecting worker exposure
Outdoor / Indoor : indoor

Technical conditions and measures
Local exhaust
Effectiveness: 90 %

Conditions and measures related to personal protection, hygiene and health evaluation
Wear suitable gloves (tested to EN374) and eye protection.

3. Exposure estimation and reference to its source

Environment

Contributing Scenario	Exposure Assessment Method	Specific conditions	Compartment	Level of Exposure	RCR	Remarks
ERC6D	EUSES v2.1		freshwater	0.0010 µg/l	0.070247	
ERC6D	EUSES v2.1		freshwater sediment	0.0355 µg/kg dry weight	0.070256	
ERC6D	EUSES v2.1		Soil	0.0064 mg/kg dry weight	0.01997	
ERC6D	EUSES v2.1		grassland	0.0078 mg/kg dry weight	0.024288	
ERC6D	EUSES v2.1		sewage treatment plant (STP)	0.0005 µg/l	0.00001	

Workers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value type	Level of Exposure	RCR	Remarks
PROC1	EASYTRA		Worker - inhalative, long-term - local	0.152 µg/m3	0.000253	
PROC2	EASYTRA		Worker - inhalative, long-term - local	0.0761 mg/m³	0.12675	
PROC3	EASYTRA		Worker - inhalative, long-term - local	0.1521 mg/m³	0.2535	
PROC4	EASYTRA		Worker - inhalative, long-term - local	0.3042 mg/m³	0.507	
PROC8a	Used ART model.		Worker - inhalative, long-term - local	0.500 mg/m³	0.833333	
PROC8b	EASYTRA		Worker - inhalative, long-term - local	0.3803 mg/m³	0.63375	
PROC9	Used ART model.		Worker - inhalative, long-term - local	0.21 mg/m³	0.350	

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

For scaling see:
If necessary, an increase in the use tonnage can be achieved by adapting the use conditions to local circumstances (scaling)., Confer with the producer.

1. Short title of exposure scenario - ES5: Bleaching of starch (Industrial use of reactive processing aids)

Main User Group	:	**SU3 -** Industrial uses: Uses of substances as such or in preparations at industrial sites
Environmental release category	:	**ERC6b -** Industrial use of reactive processing aids
Sector of use	:	**SU4 -** Manufacture of food products **SU9 -** Manufacture of fine chemicals
Process category	:	**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 **PROC15 -** Use as laboratory reagent

2.1. Contributing scenario controlling environmental exposure for: ERC6b: Industrial use of reactive processing aids

Amount used

Daily amount per site	:	5 tons/day
Annual amount per site	:	100 tons/year
Value Type (Msafe) - Daily amount per site	:	33.5 tons/day
Remarks	:	freshwater, freshwater sediment
Value Type (Msafe) - Daily amount per site	:	1020 tons/day
Remarks	:	soil
Value Type (Msafe) - Daily amount per site	:	1440 tons/day
Remarks	:	sewage treatment plant

Frequency and duration of use

Single exposure	:	20 days/year

Environmental factors not influenced by risk management

Flow rate	:	18000 m³/d

Other given operational conditions affecting environmental exposure

Number of emission days per year	:	20
Emission or Release Factor: Air	:	0.1 %
Emission or Release Factor: Water	:	5 %
Emission or Release Factor: Soil	:	0.025 %
Release rate applicable to air	:	5 kg/day
Release rate applicable to water	:	250 kg/day
Concentration in untreated wastewaters	:	0.0179 mg/l
Remarks	:	The substance degrades rapidly during the use and when passing the sewer system before entering the sewage

treatment plant. The half-live of < 5 min at 20°C (Van Egdom, 2007) and a residence time of 1 hour was taken into account.

Conditions and measures related to municipal sewage treatment plant

Type of Sewage Treatment Plant	:	Municipal STP
Flow rate of sewage treatment plant effluent	:	2000 m³/d
Sludge Treatment	:	sludge to soil

2.2. Contributing scenario controlling worker exposure for:
PROC1: Use in closed process, no likelihood of exposure

Product characteristics

Remarks	:	peracetic acid, 40 %
Physical Form (at time of use)	:	liquid

Frequency and duration of use

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

Other given operational conditions affecting worker exposure

Outdoor / Indoor	:	indoor

Technical conditions and measures

Local exhaust
Effectiveness: 98 %

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

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

2.3. Contributing scenario controlling worker exposure for:
PROC2: Use in closed, continuous process with occasional controlled exposure

Product characteristics

Remarks	:	peracetic acid, 40 %
Physical Form (at time of use)	:	liquid

Frequency and duration of use

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

Other given operational conditions affecting worker exposure

Outdoor / Indoor	:	indoor

Technical conditions and measures

Local exhaust
Effectiveness: 98 %

Conditions and measures related to personal protection, hygiene and health evaluation
Wear suitable gloves (tested to EN374) and eye protection.

2.4. Contributing scenario controlling worker exposure for:
PROC3: Use in closed batch process (synthesis or formulation)

Product characteristics

Remarks	:	peracetic acid, 40 %
Physical Form (at time of use)	:	liquid

Frequency and duration of use

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

Other given operational conditions affecting worker exposure

Outdoor / Indoor	:	indoor

Technical conditions and measures
Local exhaust
Effectiveness: 98 %

Conditions and measures related to personal protection, hygiene and health evaluation
Wear suitable gloves (tested to EN374) and eye protection.

2.5. Contributing scenario controlling worker exposure for:
PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises

Product characteristics

Remarks	:	peracetic acid, 40 %
Physical Form (at time of use)	:	liquid

Frequency and duration of use

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

Other given operational conditions affecting worker exposure

Outdoor / Indoor	:	indoor

Technical conditions and measures
Local exhaust
Effectiveness: 98 %

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

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

2.6. Contributing scenario controlling worker exposure for:
PROC15: Use as laboratory reagent

Product characteristics
Remarks : peracetic acid, 40 %
Physical Form (at time of use) : liquid

Frequency and duration of use
Frequency of use : 8 hours/day
Frequency of use : 5 days/week

Other given operational conditions affecting worker exposure
Outdoor / Indoor : indoor

Technical conditions and measures
Local exhaust
Effectiveness: 98 %

Conditions and measures related to personal protection, hygiene and health evaluation
Wear suitable gloves (tested to EN374) and eye protection.

3. Exposure estimation and reference to its source

Environment

Contributing Scenario	Exposure Assessment Method	Specific conditions	Compartment	Level of Exposure	RCR	Remarks
ERC6B	EUSES v2.1		freshwater	0.033 µg/l	0.149096	
ERC6B	EUSES v2.1		freshwater sediment	0.125 µg/kg dry weight	0.149114	
ERC6B	EUSES v2.1		Soil	0.0319 mg/kg dry weight	0.099589	
ERC6B	EUSES v2.1		grassland	0.0016 mg/kg dry weight	0.004915	
ERC6B	EUSES v2.1		sewage treatment plant (STP)	0.177 µg/l	0.003474	

Workers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value type	Level of Exposure	RCR	Remarks
PROC1	EASYTRA		Worker - inhalative, long-term - local	0.254 µg/m3	0.000422	
PROC2	EASYTRA		Worker - inhalative, long-term - local	0.1268 mg/m³	0.21125	
PROC3	EASYTRA		Worker - inhalative, long-term - local	0.2535 mg/m³	0.4225	
PROC4	EASYTRA		Worker - inhalative, long-term - local	0.507 mg/m³	0.845	
PROC15	EASYTRA		Worker - inhalative, long-term - local	0.2535 mg/m³	0.4225	

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

For scaling see:
If necessary, an increase in the use tonnage can be achieved by adapting the use conditions to local circumstances (scaling)., Confer with the producer.

1. Short title of exposure scenario - ES6: Bleaching of starch (Industrial use of intermediates)

Main User Group	:	**SU3 -** Industrial uses: Uses of substances as such or in preparations at industrial sites
Environmental release category	:	**ERC6a -** Industrial use resulting in manufacture of another substance (use of intermediates)
Sector of use	:	**SU4 -** Manufacture of food products **SU9 -** Manufacture of fine chemicals
Process category	:	**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 **PROC15 -** Use as laboratory reagent

2.1. Contributing scenario controlling environmental exposure for: ERC6a: Industrial use resulting in manufacture of another substance (use of intermediates)

Amount used

Daily amount per site	:	5 tons/day
Annual amount per site	:	100 tons/year
Value Type (Msafe) - Daily amount per site	:	49.2 tons/day
Remarks	:	freshwater, freshwater sediment
Value Type (Msafe) - Daily amount per site	:	1610 tons/day
Remarks	:	soil
Value Type (Msafe) - Daily amount per site	:	3590 tons/day
Remarks	:	sewage treatment plant

Frequency and duration of use

Single exposure	:	20 days/year

Environmental factors not influenced by risk management

Flow rate	:	18000 m³/d

Other given operational conditions affecting environmental exposure

Number of emission days per year	:	20
Emission or Release Factor: Air	:	5 %
Emission or Release Factor: Water	:	2 %
Emission or Release Factor: Soil	:	0.1 %
Release rate applicable to air	:	250 kg/day
Release rate applicable to water	:	100 kg/day
Concentration in untreated wastewaters	:	0.00717 mg/l
Remarks	:	The substance degrades rapidly during the use and when passing the sewer system before entering the sewage

treatment plant. The half-live of < 5 min at 20°C (Van Egdom, 2007) and a residence time of 1 hour was taken into account.

Conditions and measures related to municipal sewage treatment plant

Type of Sewage Treatment Plant	:	Municipal STP
Flow rate of sewage treatment plant effluent	:	2000 m³/d
Sludge Treatment	:	sludge to soil

2.2. Contributing scenario controlling worker exposure for:

PROC1: Use in closed process, no likelihood of exposure

Product characteristics

Remarks	:	peracetic acid, 40 %
Physical Form (at time of use)	:	liquid

Frequency and duration of use

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

Other given operational conditions affecting worker exposure

Outdoor / Indoor	:	indoor

Technical conditions and measures

Local exhaust
Effectiveness: 98 %

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

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

2.3. Contributing scenario controlling worker exposure for:

PROC2: Use in closed, continuous process with occasional controlled exposure

Product characteristics

Remarks	:	peracetic acid, 40 %
Physical Form (at time of use)	:	liquid

Frequency and duration of use

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

Other given operational conditions affecting worker exposure

Outdoor / Indoor	:	indoor

Technical conditions and measures

Local exhaust
Effectiveness: 98 %

Conditions and measures related to personal protection, hygiene and health evaluation
Wear suitable gloves (tested to EN374) and eye protection.

2.4. Contributing scenario controlling worker exposure for:
PROC3: Use in closed batch process (synthesis or formulation)

Product characteristics

Remarks	:	peracetic acid, 40 %
Physical Form (at time of use)	:	liquid

Frequency and duration of use

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

Other given operational conditions affecting worker exposure

Outdoor / Indoor	:	indoor

Technical conditions and measures
Local exhaust
Effectiveness: 98 %

Conditions and measures related to personal protection, hygiene and health evaluation
Wear suitable gloves (tested to EN374) and eye protection.

2.5. Contributing scenario controlling worker exposure for:
PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises

Product characteristics

Remarks	:	peracetic acid, 40 %
Physical Form (at time of use)	:	liquid

Frequency and duration of use

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

Other given operational conditions affecting worker exposure

Outdoor / Indoor	:	indoor

Technical conditions and measures
Local exhaust
Effectiveness: 98 %

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

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

2.6. Contributing scenario controlling worker exposure for:
PROC15: Use as laboratory reagent

Product characteristics

Remarks	:	peracetic acid, 40 %
Physical Form (at time of use)	:	liquid

Frequency and duration of use

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

Other given operational conditions affecting worker exposure

Outdoor / Indoor	:	indoor

Technical conditions and measures

Local exhaust
Effectiveness: 98 %

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

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

3. Exposure estimation and reference to its source

Environment

Contributing Scenario	Exposure Assessment Method	Specific conditions	Compartment	Level of Exposure	RCR	Remarks
ERC6A	EUSES v2.1		freshwater	0.023 µg/l	0.101688	
ERC6A	EUSES v2.1		freshwater sediment	0.085 µg/kg dry weight	0.101701	
ERC6A	EUSES v2.1		Soil	0.013 mg/kg dry weight	0.040765	
ERC6A	EUSES v2.1		grassland	0.001 mg/kg dry weight	0.003113	
ERC6A	EUSES v2.1		sewage treatment plant (STP)	0.071 µg/l	0.001391	

Workers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value type	Level of Exposure	RCR	Remarks
PROC1	EASYTRA		Worker - inhalative, long-term - local	0.254 µg/m3	0.000422	
PROC2	EASYTRA		Worker - inhalative, long-term - local	0.1268 mg/m³	0.21125	
PROC3	EASYTRA		Worker - inhalative, long-term - local	0.2535 mg/m³	0.4225	
PROC4	EASYTRA		Worker - inhalative, long-term - local	0.507 mg/m³	0.845	
PROC15	EASYTRA		Worker - inhalative, long-term - local	0.2535 mg/m³	0.4225	

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

For scaling see:
If necessary, an increase in the use tonnage can be achieved by adapting the use conditions to local circumstances (scaling)., Confer with the producer.

1. Short title of exposure scenario - ES7: Laundry bleach

Main User Group	:	**SU22 -** Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Environmental release category	:	**ERC8b -** Wide dispersive indoor use of reactive substances in open systems
Process category	:	**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)

2.1. Contributing scenario controlling environmental exposure for: ERC8b: Wide dispersive indoor use of reactive substances in open systems

Amount used

Daily amount per site	:	0.109589 kg/d
Annual amount per site	:	200 tons/year
Value Type (Msafe) - Daily amount per site	:	1.565 tons/day
Remarks	:	freshwater, freshwater sediment
Value Type (Msafe) - Daily amount per site	:	86.6 tons/day
Remarks	:	soil
Value Type (Msafe) - Daily amount per site	:	3600 tons/day
Remarks	:	sewage treatment plant

Frequency and duration of use

Single exposure	:	365 days/year

Environmental factors not influenced by risk management

Flow rate	:	18000 m^3/d

Other given operational conditions affecting environmental exposure

Number of emission days per year	:	365
Emission or Release Factor: Air	:	0.1 %
Emission or Release Factor: Water	:	2 %
Release rate applicable to air	:	0.00011 kg/day
Release rate applicable to water	:	0.0022 kg/day
Concentration in untreated wastewaters	:	< 0.000001 mg/l
Remarks	:	The substance degrades rapidly during the use and when passing the sewer system before entering the sewage treatment plant. The half-live of < 5 min at 20°C (Van Egdom, 2007) and a residence time of 1 hour was taken into account.

Conditions and measures related to municipal sewage treatment plant

Type of Sewage Treatment Plant	:	Municipal STP
Flow rate of sewage treatment plant effluent	:	2000 m³/d
Sludge Treatment	:	sludge to soil

2.2. Contributing scenario controlling worker exposure for:

PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities

Product characteristics

Remarks	:	peracetic acid, 10 %
Physical Form (at time of use)	:	liquid

Frequency and duration of use

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

Other given operational conditions affecting worker exposure

Outdoor / Indoor	:	indoor

Technical conditions and measures

Local exhaust
Effectiveness: 90 %

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

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

2.3. Contributing scenario controlling worker exposure for:

PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities.

Product characteristics

Remarks	:	peracetic acid, 10 %
Physical Form (at time of use)	:	liquid

Frequency and duration of use

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

Other given operational conditions affecting worker exposure

Outdoor / Indoor	:	indoor

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

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

2.4. Contributing scenario controlling worker exposure for:

PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)

Product characteristics

Remarks	:	peracetic acid, 10 %
Physical Form (at time of use)	:	liquid

Frequency and duration of use

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

Other given operational conditions affecting worker exposure

Outdoor / Indoor	:	indoor

Technical conditions and measures

Local exhaust
Effectiveness: 90 %

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

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

3. Exposure estimation and reference to its source

Environment

Contributing Scenario	Exposure Assessment Method	Specific conditions	Compartment	Level of Exposure	RCR	Remarks
ERC8B	EUSES v2.1		freshwater	0.016 µg/l	0.07001	
ERC8B	EUSES v2.1		freshwater sediment	0.059 µg/kg dry weight	0.070019	
ERC8B	EUSES v2.1		Soil	0.0007 µg/kg dry weight	0.000002	
ERC8B	EUSES v2.1		grassland	0.0004 mg/kg dry weight	0.000001	
ERC8B	EUSES v2.1		sewage treatment plant (STP)	0.0016 ng/l	0.000001	

Workers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value type	Level of Exposure	RCR	Remarks
PROC8a	Used ART model.		Worker - inhalative, long-term - local	0.58 mg/m³	0.966667	
PROC8b	Used ART model.		Worker - inhalative, long-term - local	0.17 mg/m³	0.283333	
PROC9	Used ART model.		Worker - inhalative, long-term - local	0.053 mg/m³	0.088333	

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

For scaling see:
If necessary, an increase in the use tonnage can be achieved by adapting the use conditions to local circumstances (scaling)., Confer with the producer.

1. Short title of exposure scenario - ES8: Disinfection of medical devices

Main User Group	:	**SU22 -** Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Environmental release category	:	**ERC8b -** Wide dispersive indoor use of reactive substances in open systems
Sector of use	:	**SU20 -** Health services
Process category	:	**PROC9 -** Transfer of substance or preparation into small containers (dedicated filling line, including weighing) **PROC13 -** Treatment of articles by dipping and pouring

2.1. Contributing scenario controlling environmental exposure for: ERC8b: Wide dispersive indoor use of reactive substances in open systems

Amount used

Daily amount per site	:	0.000548 kg/d
Annual amount per site	:	1 tons/year
Value Type (Msafe) - Daily amount per site	:	0.00723 kg/day
Remarks	:	freshwater, freshwater sediment
Value Type (Msafe) - Daily amount per site	:	0.449 tons/day
Remarks	:	soil
Value Type (Msafe) - Daily amount per site	:	3590 tons/day
Remarks	:	sewage treatment plant

Frequency and duration of use

Single exposure	:	365 days/year

Environmental factors not influenced by risk management

Flow rate	:	18000 m³/d

Other given operational conditions affecting environmental exposure

Number of emission days per year	:	365
Emission or Release Factor: Air	:	0.1 %
Emission or Release Factor: Water	:	2 %
Release rate applicable to water	:	0.00001 kg/day
Release rate applicable to air	:	0.000001 kg/day
Concentration in untreated wastewaters	:	< 0.000001 mg/l
Remarks	:	The substance degrades rapidly during the use and when passing the sewer system before entering the sewage treatment plant. The half-live of < 5 min at 20°C (Van Egdom, 2007) and a residence time of 1 hour was taken into account.

Conditions and measures related to municipal sewage treatment plant

Type of Sewage Treatment Plant	:	Municipal STP

Flow rate of sewage treatment plant effluent	:	2000 m³/d
Sludge Treatment	:	sludge to soil

2.2. Contributing scenario controlling worker exposure for:

PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)

Product characteristics

Remarks	:	peracetic acid, 15 %
Physical Form (at time of use)	:	liquid

Frequency and duration of use

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

Other given operational conditions affecting worker exposure

Outdoor / Indoor	:	indoor

Technical conditions and measures

Local exhaust
Effectiveness: 90 %

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

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

2.3. Contributing scenario controlling worker exposure for:

PROC13: Treatment of articles by dipping and pouring

Product characteristics

Remarks	:	peracetic acid, 1 %
Physical Form (at time of use)	:	liquid

Frequency and duration of use

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

Other given operational conditions affecting worker exposure

Outdoor / Indoor	:	indoor

Technical conditions and measures

Local exhaust
Effectiveness: 70 %

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

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

3. Exposure estimation and reference to its source

Environment

Contributing Scenario	Exposure Assessment Method	Specific conditions	Compartment	Level of Exposure	RCR	Remarks
ERC8B	EUSES v2.1		freshwater	0.0157 µg/l	0.070009	
ERC8B	EUSES v2.1		freshwater sediment	0.059 µg/kg dry weight	0.070018	
ERC8B	EUSES v2.1		Soil	0.0004 µg/kg dry weight	0.000001	
ERC8B	EUSES v2.1		grassland	0.0004 µg/kg dry weight	0.000001	
ERC8B	EUSES v2.1		sewage treatment plant (STP)	0.0001 pg/l	0.000001	

Workers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value type	Level of Exposure	RCR	Remarks
PROC9	Used ART model.		Worker - inhalative, long-term - local	0.016 mg/m³	0.026667	
PROC13	EASYTRA		Worker - inhalative, long-term - local	0.5704 mg/m³	0.950625	

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

For scaling see:
If necessary, an increase in the use tonnage can be achieved by adapting the use conditions to local circumstances (scaling)., Confer with the producer.

1. Short title of exposure scenario - ES9: Room disinfection (Wide dispersive indoor use of processing aids in open systems)

Main User Group	:	**SU22 -** Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Environmental release category	:	**ERC8a -** Wide dispersive indoor use of processing aids in open systems
Sector of use	:	**SU20 -** Health services
Process category	:	**PROC9 -** Transfer of substance or preparation into small containers (dedicated filling line, including weighing) **PROC11 -** Non industrial spraying

2.1. Contributing scenario controlling environmental exposure for: ERC8a: Wide dispersive indoor use of processing aids in open systems

Amount used

Daily amount per site	:	0.000548 kg/d
Annual amount per site	:	1 tons/year
Value Type (Msafe) - Daily amount per site	:	0.00783 kg/day
Remarks	:	freshwater, freshwater sediment
Value Type (Msafe) - Daily amount per site	:	0.449 tons/day
Remarks	:	soil
Value Type (Msafe) - Daily amount per site	:	71.8 tons/day
Remarks	:	sewage treatment plant

Frequency and duration of use

Single exposure	:	365 days/year

Environmental factors not influenced by risk management

Flow rate	:	18000 m³/d

Other given operational conditions affecting environmental exposure

Number of emission days per year	:	365
Emission or Release Factor: Air	:	100 %
Emission or Release Factor: Water	:	100 %
Release rate applicable to air	:	0.00055 kg/day
Release rate applicable to water	:	0.000055 kg/day
Concentration in untreated wastewaters	:	< 0.000001 mg/l
Remarks	:	The substance degrades rapidly during the use and when passing the sewer system before entering the sewage treatment plant. The half-live of < 5 min at 20°C (Van Egdom, 2007) and a residence time of 1 hour was taken into account.

Conditions and measures related to municipal sewage treatment plant

Type of Sewage Treatment Plant	:	Municipal STP

Flow rate of sewage treatment plant effluent	:	2000 m³/d
Sludge Treatment	:	sludge to soil

2.2. Contributing scenario controlling worker exposure for:
PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)

Product characteristics

Remarks	:	peracetic acid, 0,25 %
Physical Form (at time of use)	:	liquid

Frequency and duration of use

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

Other given operational conditions affecting worker exposure

Outdoor / Indoor	:	indoor

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

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

2.3. Contributing scenario controlling worker exposure for:
PROC11: Non industrial spraying

Product characteristics

Physical Form (at time of use)	:	liquid

Frequency and duration of use

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

Other given operational conditions affecting worker exposure

Outdoor / Indoor	:	indoor

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

Wear respiratory protection.
Effectiveness: 94 %
Wear suitable gloves (tested to EN374) and eye protection.

3. Exposure estimation and reference to its source

Environment

Contributing Scenario	Exposure Assessment Method	Specific conditions	Compartment	Level of Exposure	RCR	Remarks
ERC8A	EASYTRA		freshwater	0.016 µg/l	0.070009	
ERC8A	EASYTRA		freshwater sediment	0.059 µg/kg dry weight	0.070018	
ERC8A	EASYTRA		Soil	0.0005 µg/kg dry weight	0.000001	
ERC8A	EASYTRA		grassland	0.0004 µg/kg dry weight	0.000001	
ERC8A	EASYTRA		sewage treatment plant (STP)	0.389 pg/l	0.000001	

Workers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value type	Level of Exposure	RCR	Remarks
PROC9	EASYTRA		Worker - inhalative, long-term - local	0.0792 mg/m³	0.132031	
PROC11	EASYTRA		Worker - inhalative, long-term - local	0.0002 µg/m3	< 0.000001	

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

For scaling see:
If necessary, an increase in the use tonnage can be achieved by adapting the use conditions to local circumstances (scaling)., Confer with the producer.

1. Short title of exposure scenario - ES10: Room disinfection (Wide dispersive indoor use of reactive substances in open systems)

Main User Group	:	**SU22 -** Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Environmental release category	:	**ERC8b -** Wide dispersive indoor use of reactive substances in open systems
Sector of use	:	**SU20 -** Health services
Process category	:	**PROC9 -** Transfer of substance or preparation into small containers (dedicated filling line, including weighing) **PROC11 -** Non industrial spraying

2.1. Contributing scenario controlling environmental exposure for: ERC8b: Wide dispersive indoor use of reactive substances in open systems

Amount used

Daily amount per site	:	0.000548 kg/d
Annual amount per site	:	1 tons/year
Value Type (Msafe) - Daily amount per site	:	0.00723 kg/day
Remarks	:	freshwater, freshwater sediment
Value Type (Msafe) - Daily amount per site	:	0.449 tons/day
Remarks	:	soil
Value Type (Msafe) - Daily amount per site	:	3590 tons/day
Remarks	:	sewage treatment plant

Frequency and duration of use

Single exposure	:	365 days/year

Environmental factors not influenced by risk management

Flow rate	:	18000 m³/d

Other given operational conditions affecting environmental exposure

Number of emission days per year	:	365
Emission or Release Factor: Air	:	0.1 %
Emission or Release Factor: Water	:	2 %
Release rate applicable to water	:	0.00001 kg/day
Release rate applicable to air	:	0.000001 kg/day
Concentration in untreated wastewaters	:	< 0.000001 mg/l
Remarks	:	The substance degrades rapidly during the use and when passing the sewer system before entering the sewage treatment plant. The half-live of < 5 min at 20°C (Van Egdom, 2007) and a residence time of 1 hour was taken into account.

Conditions and measures related to municipal sewage treatment plant

Type of Sewage Treatment Plant	:	Municipal STP

Flow rate of sewage treatment plant effluent	:	2000 m³/d
Sludge Treatment	:	sludge to soil

2.2. Contributing scenario controlling worker exposure for:
PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)

Product characteristics

Remarks	:	peracetic acid, 0,25 %
Physical Form (at time of use)	:	liquid

Frequency and duration of use

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

Other given operational conditions affecting worker exposure

Outdoor / Indoor	:	indoor

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

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

2.3. Contributing scenario controlling worker exposure for:
PROC11: Non industrial spraying

Product characteristics

Physical Form (at time of use)	:	liquid

Frequency and duration of use

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

Other given operational conditions affecting worker exposure

Outdoor / Indoor	:	indoor

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

Wear respiratory protection.
Effectiveness: 94 %
Wear suitable gloves (tested to EN374) and eye protection.

3. Exposure estimation and reference to its source

Environment

Contributing Scenario	Exposure Assessment Method	Specific conditions	Compartment	Level of Exposure	RCR	Remarks
ERC8B	EASYTRA		freshwater	0.0157 µg/l	0.070009	
ERC8B	EASYTRA		freshwater sediment	0.059 µg/kg dry weight	0.070018	
ERC8B	EASYTRA		Soil	0.0004 µg/kg dry weight	0.000001	
ERC8B	EASYTRA		grassland	0.0004 mg/kg dry weight	0.000001	
ERC8B	EASYTRA		sewage treatment plant (STP)	0.0001 pg/l	0.000001	

Workers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value type	Level of Exposure	RCR	Remarks
PROC9	EASYTRA		Worker - inhalative, long-term - local	0.0792 mg/m³	0.132031	
PROC11	EASYTRA		Worker - inhalative, long-term - local	0.0002 µg/m3	< 0.000001	

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

For scaling see:
If necessary, an increase in the use tonnage can be achieved by adapting the use conditions to local circumstances (scaling)., Confer with the producer.

1. Short title of exposure scenario - ES11: Disinfection of dialysis membranes

Main User Group	:	**SU22 -** Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Environmental release category	:	**ERC8b -** Wide dispersive indoor use of reactive substances in open systems
Sector of use	:	**SU20 -** Health services
Process category	:	**PROC9 -** Transfer of substance or preparation into small containers (dedicated filling line, including weighing)

2.1. Contributing scenario controlling environmental exposure for: ERC8b: Wide dispersive indoor use of reactive substances in open systems

Amount used

Daily amount for wide disperse uses	:	0.001096 kg/d
Annual amount for wide disperse uses	:	2 tons/year
Value Type (Msafe) - Daily amount per site	:	0.0157 kg/day
Remarks	:	freshwater, freshwater sediment
Value Type (Msafe) - Daily amount per site	:	0.897 tons/day
Remarks	:	soil
Value Type (Msafe) - Daily amount per site	:	3600 tons/day
Remarks	:	sewage treatment plant

Frequency and duration of use

Single exposure	:	365 days/year

Environmental factors not influenced by risk management

Flow rate	:	18000 m³/d

Other given operational conditions affecting environmental exposure

Number of emission days per year	:	365
Emission or Release Factor: Air	:	0.1 %
Emission or Release Factor: Water	:	2 %
Release rate applicable to water	:	0.00001 kg/day
Release rate applicable to air	:	0.000001 kg/day
Concentration in untreated wastewaters	:	< 0.000001 mg/l
Remarks	:	The substance degrades rapidly during the use and when passing the sewer system before entering the sewage treatment plant. The half-live of < 5 min at 20°C (Van Egdom, 2007) and a residence time of 1 hour was taken into account.

Conditions and measures related to municipal sewage treatment plant

Type of Sewage Treatment Plant	:	Municipal STP

Flow rate of sewage treatment plant effluent	:	2000 m³/d
Sludge Treatment	:	sludge to soil

2.2. Contributing scenario controlling worker exposure for:

PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)

Product characteristics

Remarks	:	peracetic acid, 15 %
Physical Form (at time of use)	:	liquid

Frequency and duration of use

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

Other given operational conditions affecting worker exposure

Outdoor / Indoor	:	indoor

Technical conditions and measures

Local exhaust
Effectiveness: 90 %

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

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

3. Exposure estimation and reference to its source

Environment

Contributing Scenario	Exposure Assessment Method	Specific conditions	Compartment	Level of Exposure	RCR	Remarks
ERC8B	EASYTRA		freshwater	0.016 µg/l	0.070009	
ERC8B	EASYTRA		freshwater sediment	0.059 µg/kg dry weight	0.070018	
ERC8B	EASYTRA		Soil	0.0004 µg/kg dry weight	0.000001	
ERC8B	EASYTRA		grassland	0.0004 µg/kg dry weight	0.000001	
ERC8B	EASYTRA		sewage treatment plant (STP)	0.0001 pg/l	0.000001	

Workers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value type	Level of Exposure	RCR	Remarks
PROC9	Used ART model.		Worker - inhalative, long-term - local	0.016 mg/m³	0.026667	

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

For scaling see:
If necessary, an increase in the use tonnage can be achieved by adapting the use conditions to local circumstances (scaling)., Confer with the producer.

1. Short title of exposure scenario - ES12: Laboratory agent (industrial use)

Main User Group	:	**SU3 -** Industrial uses: Uses of substances as such or in preparations at industrial sites
Environmental release category	:	**ERC6b -** Industrial use of reactive processing aids
Sector of use	:	**SU9 -** Manufacture of fine chemicals
Process category	:	**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 **PROC9 -** Transfer of substance or preparation into small containers (dedicated filling line, including weighing) **PROC15 -** Use as laboratory reagent

2.1. Contributing scenario controlling environmental exposure for:
ERC6b: Industrial use of reactive processing aids

Amount used

Daily amount per site	:	0.5 tons/day
Annual amount per site	:	10 tons/year
Value Type (Msafe) - Daily amount per site	:	6417.012 kg/day
Remarks	:	freshwater
Value Type (Msafe) - Daily amount per site	:	6416.216 kg/day
Remarks	:	freshwater sediment
Value Type (Msafe) - Daily amount per site	:	1020 tons/day
Remarks	:	soil
Value Type (Msafe) - Daily amount per site	:	1440 tons/day
Remarks	:	sewage treatment plant

Frequency and duration of use

Single exposure	:	20 days/year

Environmental factors not influenced by risk management

Flow rate	:	18000 m³/d

Other given operational conditions affecting environmental exposure

Number of emission days per year	:	20
Emission or Release Factor: Air	:	0.1 %
Emission or Release Factor: Water	:	5 %
Emission or Release Factor: Soil	:	0.025 %
Release rate applicable to water	:	25 kg/day
Release rate applicable to air	:	0.5 kg/day
Concentration in untreated	:	0.00179 mg/l

wastewaters
Remarks : The substance degrades rapidly during the use and when passing the sewer system before entering the sewage treatment plant. The half-live of < 5 min at 20°C (Van Egdom, 2007) and a residence time of 1 hour was taken into account.

Conditions and measures related to municipal sewage treatment plant

Type of Sewage Treatment Plant	:	Municipal STP
Flow rate of sewage treatment plant effluent	:	2000 m³/d
Sludge Treatment	:	sludge to soil

2.2. Contributing scenario controlling worker exposure for:
PROC1: Use in closed process, no likelihood of exposure

Product characteristics

Remarks	:	peracetic acid, 40 %
Physical Form (at time of use)	:	liquid

Frequency and duration of use

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

Other given operational conditions affecting worker exposure

Outdoor / Indoor	:	indoor

Technical conditions and measures

Local exhaust
Effectiveness: 98 %

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

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

2.3. Contributing scenario controlling worker exposure for:
PROC2: Use in closed, continuous process with occasional controlled exposure

Product characteristics

Remarks	:	peracetic acid, 40 %
Physical Form (at time of use)	:	liquid

Frequency and duration of use

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

Other given operational conditions affecting worker exposure

Outdoor / Indoor : indoor

Technical conditions and measures
Local exhaust
Effectiveness: 98 %

Conditions and measures related to personal protection, hygiene and health evaluation
Wear suitable gloves (tested to EN374) and eye protection.

2.4. Contributing scenario controlling worker exposure for:
PROC3: Use in closed batch process (synthesis or formulation)

Product characteristics
Remarks : peracetic acid, 40 %
Physical Form (at time of use) : liquid

Frequency and duration of use
Frequency of use : 8 hours/day
Frequency of use : 5 days/week

Other given operational conditions affecting worker exposure
Outdoor / Indoor : indoor

Technical conditions and measures
Local exhaust
Effectiveness: 98 %

Conditions and measures related to personal protection, hygiene and health evaluation
Wear suitable gloves (tested to EN374) and eye protection.

2.5. Contributing scenario controlling worker exposure for:
PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises

Product characteristics
Remarks : peracetic acid, 40 %
Physical Form (at time of use) : liquid

Frequency and duration of use
Frequency of use : 8 hours/day
Frequency of use : 5 days/week

Other given operational conditions affecting worker exposure
Outdoor / Indoor : indoor

Technical conditions and measures
Local exhaust
Effectiveness: 98 %

Conditions and measures related to personal protection, hygiene and health evaluation
Wear suitable gloves (tested to EN374) and eye protection.

2.6. Contributing scenario controlling worker exposure for:
PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)

Product characteristics

Remarks	:	peracetic acid, 40 %
Physical Form (at time of use)	:	liquid

Frequency and duration of use

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

Other given operational conditions affecting worker exposure

Outdoor / Indoor	:	indoor

Technical conditions and measures
Local exhaust
Effectiveness: 90 %

Conditions and measures related to personal protection, hygiene and health evaluation
Wear suitable gloves (tested to EN374) and eye protection.

2.7. Contributing scenario controlling worker exposure for:
PROC15: Use as laboratory reagent

Product characteristics

Remarks	:	peracetic acid, 40 %
Physical Form (at time of use)	:	liquid

Frequency and duration of use

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

Other given operational conditions affecting worker exposure

Outdoor / Indoor	:	indoor

Technical conditions and measures
Local exhaust
Effectiveness: 98 %

Conditions and measures related to personal protection, hygiene and health evaluation
Wear suitable gloves (tested to EN374) and eye protection.

3. Exposure estimation and reference to its source

Environment

Contributing Scenario	Exposure Assessment Method	Specific conditions	Compartment	Level of Exposure	RCR	Remarks
ERC6B	EASYTRA		freshwater	0.017 µg/l	0.077918	
ERC6B	EASYTRA		freshwater sediment	0.065 µg/kg dry weight	0.077928	
ERC6B	EASYTRA		Soil	0.0032 mg/kg dry weight	0.00996	
ERC6B	EASYTRA		grassland	0.158 µg/kg dry weight	0.000493	
ERC6B	EASYTRA		sewage treatment plant (STP)	0.018 µg/l	0.000347	

Workers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value type	Level of Exposure	RCR	Remarks
PROC1	EASYTRA		Worker - inhalative, long-term - local	0.254 µg/m3	0.000422	
PROC2	EASYTRA		Worker - inhalative, long-term - local	0.1268 mg/m³	0.21125	
PROC3	EASYTRA		Worker - inhalative, long-term - local	0.2535 mg/m³	0.4225	
PROC4	EASYTRA		Worker - inhalative, long-term - local	0.507 mg/m³	0.845	
PROC9	Used ART model.		Worker - inhalative, long-term - local	0.140 mg/m³	0.233333	
PROC15	EASYTRA		Worker - inhalative, long-term - local	0.2535 mg/m³	0.4225	

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

For scaling see:

If necessary, an increase in the use tonnage can be achieved by adapting the use conditions to local circumstances (scaling)., Confer with the producer.

1. Short title of exposure scenario - ES13: Laboratory agent (professional use)

Main User Group	:	**SU22 -** Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Environmental release category	:	**ERC8b -** Wide dispersive indoor use of reactive substances in open systems
Sector of use	:	**SU24 -** Scientific research and development
Process category	:	**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 **PROC9 -** Transfer of substance or preparation into small containers (dedicated filling line, including weighing) **PROC15 -** Use as laboratory reagent

2.1. Contributing scenario controlling environmental exposure for: ERC8b: Wide dispersive indoor use of reactive substances in open systems

Amount used

Daily amount for wide disperse uses	:	0.005479 tons/day
Annual amount for wide disperse uses	:	10 tons/year
Value Type (Msafe) - Daily amount per site	:	0.078268 kg/day
Remarks	:	freshwater
Value Type (Msafe) - Daily amount per site	:	0.078258 kg/day
Remarks	:	freshwater sediment
Value Type (Msafe) - Daily amount per site	:	4478.573 tons/day
Remarks	:	soil
Value Type (Msafe) - Daily amount per site	:	3590 tons/day
Remarks	:	sewage treatment plant

Frequency and duration of use

Single exposure	:	365 days/year

Environmental factors not influenced by risk management

Flow rate	:	18000 m³/d

Other given operational conditions affecting environmental exposure

Number of emission days per year	:	365
Emission or Release Factor: Air	:	0.1 %
Emission or Release Factor: Water	:	2 %
Release rate applicable to water	:	0.00011 kg/day

Release rate applicable to air	:	0.000006 kg/day
Concentration in untreated wastewaters	:	< 0.000001 mg/l
Remarks	:	The substance degrades rapidly during the use and when passing the sewer system before entering the sewage treatment plant. The half-live of < 5 min at 20°C (Van Egdom, 2007) and a residence time of 1 hour was taken into account.

Conditions and measures related to municipal sewage treatment plant

Type of Sewage Treatment Plant	:	Municipal STP
Flow rate of sewage treatment plant effluent	:	2000 m^3/d
Sludge Treatment	:	sludge to soil

2.2. Contributing scenario controlling worker exposure for:

PROC1: Use in closed process, no likelihood of exposure

Product characteristics

Remarks	:	peracetic acid, 40 %
Physical Form (at time of use)	:	liquid

Frequency and duration of use

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

Other given operational conditions affecting worker exposure

Outdoor / Indoor	:	indoor

Technical conditions and measures

Local exhaust
Effectiveness: 98 %

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

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

2.3. Contributing scenario controlling worker exposure for:

PROC2: Use in closed, continuous process with occasional controlled exposure

Product characteristics

Remarks	:	peracetic acid, 40 %
Physical Form (at time of use)	:	liquid

Frequency and duration of use

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

Other given operational conditions affecting worker exposure
Outdoor / Indoor : indoor

Technical conditions and measures
Local exhaust
Effectiveness: 98 %

Conditions and measures related to personal protection, hygiene and health evaluation
Wear suitable gloves (tested to EN374) and eye protection.

2.4. Contributing scenario controlling worker exposure for:
PROC3: Use in closed batch process (synthesis or formulation)

Product characteristics
Remarks : peracetic acid, 40 %
Physical Form (at time of use) : liquid

Frequency and duration of use
Frequency of use : 4 hours/day
Frequency of use : 5 days/week

Other given operational conditions affecting worker exposure
Outdoor / Indoor : indoor

Technical conditions and measures
Local exhaust
Effectiveness: 90 %

Conditions and measures related to personal protection, hygiene and health evaluation
Wear suitable gloves (tested to EN374) and eye protection.

2.5. Contributing scenario controlling worker exposure for:
PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises

Product characteristics
Remarks : peracetic acid, 40 %
Physical Form (at time of use) : liquid

Frequency and duration of use
Frequency of use : 4 hours/day
Frequency of use : 5 days/week

Other given operational conditions affecting worker exposure
Outdoor / Indoor : indoor

Technical conditions and measures
Local exhaust
Effectiveness: 90 %

Conditions and measures related to personal protection, hygiene and health evaluation
Wear suitable gloves (tested to EN374) and eye protection.

2.6. Contributing scenario controlling worker exposure for:
PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)

Product characteristics

Remarks	:	peracetic acid, 40 %
Physical Form (at time of use)	:	liquid

Frequency and duration of use

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

Other given operational conditions affecting worker exposure

Outdoor / Indoor	:	indoor

Technical conditions and measures
Local exhaust
Effectiveness: 90 %

Conditions and measures related to personal protection, hygiene and health evaluation
Wear suitable gloves (tested to EN374) and eye protection.

2.7. Contributing scenario controlling worker exposure for:
PROC15: Use as laboratory reagent

Product characteristics

Remarks	:	peracetic acid, 40 %
Physical Form (at time of use)	:	liquid

Frequency and duration of use

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

Other given operational conditions affecting worker exposure

Outdoor / Indoor	:	indoor

Technical conditions and measures
Local exhaust
Effectiveness: 98 %

Conditions and measures related to personal protection, hygiene and health evaluation
Wear suitable gloves (tested to EN374) and eye protection.

3. Exposure estimation and reference to its source

Environment

Contributing Scenario	Exposure Assessment Method	Specific conditions	Compartment	Level of Exposure	RCR	Remarks
ERC8B	EASYTRA		freshwater	0.016 µg/l	0.070009	
ERC8B	EASYTRA		freshwater sediment	0.059 µg/kg dry weight	0.070018	
ERC8B	EASYTRA		Soil	0.0004 µg/kg dry weight	0.000001	
ERC8B	EASYTRA		grassland	0.0004 µg/kg dry weight	0.000001	
ERC8B	EASYTRA		sewage treatment plant (STP)	0.0001 ng/kg dry weight	0.000001	

Workers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value type	Level of Exposure	RCR	Remarks
PROC1	EASYTRA		Worker - inhalative, long-term - local	0.1521 µg/m3	0.000253	
PROC2	EASYTRA		Worker - inhalative, long-term - local	0.3042 mg/m³	0.507	
PROC3	Used ART model.		Worker - inhalative, long-term - local	0.015 mg/m³	0.025	
PROC4	Used ART model.		Worker - inhalative, long-term - local	0.23 mg/m³	0.383333	
PROC9	Used ART model.		Worker - inhalative, long-term - local	0.23 mg/m³	0.383333	
PROC15	EASYTRA		Worker - inhalative, long-term - local	0.1521 mg/m³	0.2535	

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

For scaling see:
If necessary, an increase in the use tonnage can be achieved by adapting the use conditions to local circumstances (scaling)., Confer with the producer.