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

#### 1.1. Product identifier

Tradename 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

Division of Entaco) Unit 90 Heming Road, Washford Redditch UK B98 0EA,

Telephone +44 (0)1527 830940

Email Address 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

## 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)



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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: P273 - Avoid release to the environment.

Prevention P280 - Wear protective gloves/protective clothing/eye protection/face protection.

Precautionary statement: P302 + P352 - IF ON SKIN: Wash with plenty of water/ soap.

Reaction 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**

Acute toxicity (inhalation)

Skin corrosion/irritation

Hazardous to the aquatic environment - Chronic Hazard

Acute toxicity (Oral)

Remarks

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

#### 3.1. Substances

-

#### 3.2. Mixtures

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

<ul><li>Perace</li></ul>	tic acid		0.1% - 0.5%			
Acute toxic Acute toxic Skin corro Serious ey Specific Ta Hazardous Remarks	eroxides city (inhalation) city (dermal) city (Oral) sion/irritation /e damage/eye irrita arget Organ Toxicity s to the aquatic envi From / s to the aquatic envi	<ul> <li>Single exposure ronment -AcuteHa Annex VI, Directive</li> </ul>	zard (EC) No. 1272/2008 s	Typ Cat Cat Cat Cat Cat Cat supplemental clas	egory 3 ee D egory 3 egory 4 egory 3 egory 1A egory 1 egory 3 egory 3	1330-56-0004 H226 H242 H331 H312 H301 H314 H318 H335 H400
<ul><li>hydrog</li></ul>	en peroxide solu	tion	6% - 7%			
CAS-No.  Oxidizing I	7722-84-1	EC-No.	231-765-0	REACH-No.	01-211948	5845-22-0000 5845-22-0012 5845-22-0016 H271

From Annex VI, Directive (EC) No. 1272/2008 supplemental classification with:

H332

H302

H314

H412

Category 4

Category 4

Category 3

Category 1A

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> > Texts of H phrases, see in Chapter 16

#### 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

Caus

es

burns.

daze

headache, vertigo, 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, characteriz ed by quickly progressing deep tissue damage. In the eye, caustic/ irritating and harmful liquids cause, depending on the intensity of exposure, various levels of irrit ation, 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.

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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

ornose. There is a risk of pulmonary edema!

#### 5. Fire-fighting measures

#### 5.1. Extinguishing media

Suitable extinguishing med: Water Foam

dry powder

Carbon dioxide (CO2)

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

## 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 universal binder)

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

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W ear personal protective equipment; 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

Temperature requirement during storage max 40C.

Well ventilated, dry, clean, lockable.

Suitable materials stainless steel (1.4571)

Suitable materials Plastics
Suitable materials polyethylene
Suitable materials Polypropylene

Suitable materials polytetrafluoroethylene Suitable materials poly vinyl 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.

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#### 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 EL V)					

#### **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

EndUse Workers Routes of exposure dermal

Possible health damage Acute - local effects

Value 12000 mg/kg **EndUse** general populace

Routes of exposure Inhalation

Possible health damage Long-term - systemic effects Long-term - local effects

Value 0.6 mg/m3

**EndUse** general populace Routes of exposure Inhalation

Possible health damage Acute - systemic effects

Value 0.6 mg/m3

**EndUse** general populace Routes of exposure Inhalation

Possible health damage Acute - local effects

Value 0.3 mg/m3

**EndUse** 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

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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 A2B2E 2K1P2 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

Breakthrough 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.

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#### **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.

#### 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

Odourthreshold: No data available

pH ca. 1.4 (20 °C)

Medium: Product

Melting point/range ca. -15 °C

Boilingpoint/range not applicable

Flashpoint not applicable

Evaporation rate No data available

Flammability (solid, gas) Not combustible.

Lower explosion limit no data available

Upper explosion limit no data available

Vapourpressure No data available

Density ca. 1.03 g/cm3 (20 °C)

Relative density No data available

Watersolubility No data available

Miscibility in water completely miscible

Partition coefficient: noctanol/water No data available

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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

#### 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

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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

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Risk of aspiration toxicity Not relevant

Gentoxicity in vitro Ames test Salmonella typhimurium negati ve

Metabolic activation: with or without Method: OECD 471

Test substance: peracetic acid 5 %

HGPRT-Test Chinese hamster (V 79 -cells) negati ve

Metabolic activation: with or without Method: OECD 476

Test substance: peracetic acid 11 %

chromosomal aberration Chinese hamster (V 79 -cells) negati ve

Metabolic activation: with or without Method: OECD 473

Test substance: peracetic acid 11 %

Unscheduled DNA synthesis -test (UDS) human diploid fibroblasts negati ve

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 negati ve Method: Mutagenicity (micronucleus test)

Test substance: peracetic acid 5 %

Unscheduled DNA synthesis -test (UDS) Rat Oral negati ve

Method: OECD TG 486
Test substance: peracetic acid 5 %

Carcinogenicity No data available not

mutagenic

Toxicity to reproduction Prenatal devel opm ent toxicity study Oral Rat / 1 4 days

NOAEL (No Observed 12.5 mg/kg

Adverse Effect Level) of

parents:

NOAELF1: 30.4 mg/kg
Method: OECD TG 414
Testsubstance: peracetic acid 100 %

12. Ecological information

12.1. Toxicity

Toxicitytofish LC50 Oncorhynchus mykiss: 0.53 mg/l / 96 h

Test substance: peracetic acid 100 %

Method: OECD Test Guideline 203

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> 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

72 h

EC50 static test Pseudokirchneriella subcapitata (aglae): 0.16 mg/l /

Endpoint: growth rate

Test substance: peracetic acid 100 % Method: US-EPA-m ethod

NOEC static test Pseudokirchneriella subcapitata (aglae): 0.061

mg/l / 72 h

Endpoint: 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

chronictoxicityinfish

/33 d

NOEC flow-through test Danio rerio: 0.00094 mg/l

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

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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 Iov

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

FurtherInformation Does not contain any heavy metals and compounds from EC

directive 76/464

e.g. arsenic-, lead cadmium Mercury

organic halogen compounds organic

compounds

#### 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 localauthorities.

#### **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.

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14. Transport information

## Tran sport on land (ADR/ RID/G GVSEB)

14.1. UN number: UN 3082

14.2. UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,

N.O.S.(contains Peracetic acid, stabilized)

4.3. Transport hazard class(es): 9
4.4. Packing group: III
14.5. Environmental hazards: Yes
14.6. Special precautions for user: Yes

ADR: Tunnel Restriction Code: Protect from thermal radiation.

Inlan dwaterway transport (ADN/GGVS EB (Germany))

14.1. UN number: UN 308

14.2. UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,

N.O.S.(contains Peracetic acid, stabilized)

4.3. Transport hazard class(es): 9
4.4. Packing group: III
14.5. Environmental hazards: Yes
14.6. Special precautions for user: Yes
Protect from thermal

Air tr ansport 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)

4.3. Transport hazard class(es): 9
4.4. Packing group: III
14.5. Environmental hazards: Yes
14.6. Special precautions for user: Yes

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

Protect from thermal radiation.

#### Sea t ansport 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)

4.3. Transport hazard class(es):
4.4. Packing group:
14.5. Environmental hazards:
14.6. Special precautions for user:
EmS:
9
III
Yes
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 transport approval see regulatory information

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#### 15. Regulatory information

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

Water contaminating class (Germany)

GK 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

Please note Directive 94/33/EC (Protection of Young Workers at

the Workplace Directive) and amendments.

Observe national regulations.

Please observe Appendix XVII of the EU Regulation 1907/2006 Other regulations

> (Restrictions on the manufacture, placing on the market, and use of certain dangerous substances, preparations and articles)

as well as their amendments.

registration

listed/registered Europe (EINE CS/ELINCS)

all ingredi ents listed

USA (TSCA) listed/registered

all ingredients listed

listed/registered Canada (DSL)

all ingredi ents listed

Philippines (PICCS) listed/registered

all ingredients listed

New Zealand listed/registered

all ingredi ents listed listed/registered

Korea all ingredients listed

listed/registered

China

all ingredi ents 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

Classification and applied procedure to derive the classification of mixtures according to EU Regulation (EC) No. 1272/2008 (CLP)

Classification	Classification procedure
Eye Dam./Eye Irrit., 1 , H318	
Skin Irrit., 2, H315	
Aquatic Chronic, 2, H411	

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> H226 Flammable liquid and vapour. H242 Heating may cause a fire.

H271 May cause fire or explosion; strong oxidiser.

H301 Toxic if swallowed.
H302 Harmful if swallowed.
H312 Harmful in contact with skin.

H314 Causes severe skin burns and eye damage.

H318 Causes serious eye damage.

H331 Toxic if inhaled. H332 Harmful if inhaled.

H335 May cause respiratory irritation. H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.
 H412 Harmful to aquatic life with long lasting effects.

#### **Further information**

Furtherinformation 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

This information and all further technical advice is based on our present knowledge and experience. However, it implies no liability or other legal responsibility on our part, including with regard to existing third party intellectual property rights, especially patent rights. In particular, no warranty, whether express or implied, or guarantee of product properties in the legal sense is intended or implied. We reserve the right to make any changes according to technological progress or further developments. The customer is not released from the obligation to conduct careful inspection and testing of incoming goods. Performance of the product described herein should be verified by testing, which should be carried out only by qualified experts in the sole responsibility of a customer. Reference to trade names used by other companies is neither a recommendation, nor does it imply that similar products could not be used.

#### 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

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NOAEL No observed adverse effect level 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

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## 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 finechemicals

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

formulation of preparations and articles (multistage and/ o

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, servic es, craftsmen)

Environmental release category : **ERC2 -** Formulation of preparations

Sector of use : SU9- Manufacture of finechemicals

**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)

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Environmental release category ERC6b - Industrial use of reactive processing aids

Sector of use : SU9- Manufacture of finechemicals

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 finechemicals

Process category : PROC1 - Use in closed process, no likelihood ofexposure

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

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Sector of use : **SU4-** Manufacture of food products

SU9- Manufacture of finechemicals

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 finechemicals

Process category : **PROC1 -** Use in closed process, no likelihood ofexposure

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, servic es, craftsmen)

Environmental release category : **ERC8b** - Wide dispersive indoor use of reacti ve 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,

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education, entertainment, servic es, craftsmen)

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Sector of use : **SU20-** Health services

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Revision date 1 June 2015 Revision date 1 June 2015 Print date 2 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, servic es, 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, servic es, 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, servic es, 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)

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#### 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 finechemicals

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, servic es, 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 ofexposure

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

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## 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 : 71.4 tons/day

amount per site

Remarks : freshwater, freshwater sedim ent

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 m<sup>3</sup>/d

Other given operational conditions affecting environmental exposure

Num ber of emission days per year : 10 Emission or Release Factor: Air : 2.5 % Emission or Rel ease 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

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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<sup>3</sup>/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 measure s 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 %

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#### Conditions and measure s 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 measure s 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 measure s related to personal protection, hygiene and health evaluation

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

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## 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 measure s 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**

Contributi ng 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	

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#### **Workers**

Contributi ng 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.

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

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

education, entertainment, servic es, 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 : 71.4 tons/day

amount per site

Remarks : freshwater, freshwater sedim ent

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 m<sup>3</sup>/d

Other given operational conditions affecting environmental exposure

Num ber 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

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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<sup>3</sup>/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 measure s 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 %

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#### Conditions and measure s 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 measure s 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 measure s related to personal protection, hygiene and health evaluation

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

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#### 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 measure s 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**

Contributi ng 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	

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#### **Workers**

Contributi ng 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.

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# 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 : 48.7 tons/day

amount per site

Remarks : freshwater, freshwater sedim ent

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 pl ant

Frequency and duration of use

Single exposure : 20 days/year

Environmental factors not influenced by risk management

Flow rate :  $18000 \text{ m}^3/\text{d}$ 

Other given operational conditions affecting environmental exposure

Num ber of emission days per year : 20
Emission or Release Factor: Air : 0.1 %
Emission or Rel ease Factor: Water : 5 %
Emission or Release Factor: Soil : 0.025 %

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Release rate applicable to air Release rate applicable to water Concentration in untreated

wastewaters

15 kg/day750 kg/day0.0538 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 m<sup>3</sup>/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 measure s 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

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## Other given operational conditions affecting worker exposure

Outdoor / Indoor : indoor

#### Technical conditions and measures

Local exhaust Effectiveness: 98 %

#### Conditions and measure s 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 measure s 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

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Local exhaust Effectiveness: 98 %

#### Conditions and measure s 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 measure s 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 %

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## Conditions and measure s 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 measure s 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**

Contributi ng 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	

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### Workers

Contributi ng 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/m <sup>3</sup>	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.

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## 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** 

Remarks

Daily amount per site : 15 tons/day
Annual amount per site : 300 tons/year
Value Type (Msafe) - Daily : 214 tons/day

amount per site

: freshwater, freshwater sedim ent

Value Type (Msafe) - Daily

amount per site

: 618 tons/day

Remarks : soil

Value Type (Msafe) - Daily

aı

: 144000 tons/day

amount per site

Remarks : sewage treatment pl ant

Frequency and duration of use

Single exposure : 20 days/year

Environmental factors not influenced by risk management

Flow rate :  $18000 \text{ m}^3/\text{d}$ 

Other given operational conditions affecting environmental exposure

Num ber of emission days per year : 20

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Emission or Rel ease Factor: Air : 35 %

Emission or Release Factor: Water : 0.005 %

Emission or Rel ease Factor: Soil : 0.025 %

Release rate applicable to air : 5250 kg/day

Release rate applicable to water : 0.75 kg/day

Concentration in untreated : 0.000054 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 m<sup>3</sup>/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 measure s 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

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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 measure s 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 measure s 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

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Outdoor / Indoor : indoor

#### Technical conditions and measures

Local exhaust Effectiveness: 98 %

### Conditions and measure s 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 measure s 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

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Effectiveness: 98 %

### Conditions and measure s 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 measure s 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**

Contributi ng 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	

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### Workers

Contributi ng 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/m <sup>3</sup>	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

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## 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 : 33.5 tons/day Value Type (Msafe) - Daily

amount per site

Remarks : freshwater, freshwater sedim ent

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 pl ant

Frequency and duration of use

Single exposure : 20 days/year

Environmental factors not influenced by risk management

: 18000 m<sup>3</sup>/d Flow rate

Other given operational conditions affecting environmental exposure

Num ber of emission days per year : 20 Emission or Release Factor: Air : 0.1 % Emission or Rel ease 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
Conc entration in untreated : 0.0179 mg/l

wastewaters

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Remarks : The substanc e 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<sup>3</sup>/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 measure s 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

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Local exhaust Effectiveness: 98 %

### Conditions and measure s 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 measure s 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 measure s related to personal protection, hygiene and health evaluation

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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 measure s 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**

Contributi ng 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	

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### Workers

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

## 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 ofexposure

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

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### 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 : 49.2 tons/day

amount per site

Remarks : freshwater, freshwater sedim ent

Value Type (Msafe) - Daily

amount per site

fe) - Daily : 1610 tons/day

Remarks : soil

Value Type (Msafe) - Daily : 3590 tons/day

amount per site

Remarks : sewage treatment pl ant

Frequency and duration of use

Single exposure : 20 days/year

Environmental factors not influenced by risk management

Flow rate : 18000 m<sup>3</sup>/d

Other given operational conditions affecting environmental exposure

Num ber 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

Conc entration in untreated : 0.00717 mg/l

wastewaters

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Remarks : The substanc e 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

: 2000 m<sup>3</sup>/d

plant effluent

Sludge Treatment : sludge to soil

### 2.2. Contributing scenario controlling worker exposure for:

## PROC1: Use in closed process, no likelihood of exposure

**Product characteristics** 

: peracetic acid, 40 % Remarks

Physical Form (at time of use) : liquid

Frequency and duration of use

: 8 hours/day Frequency of use 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 measure s 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** 

: peracetic acid, 40 % Remarks

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

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Local exhaust Effectiveness: 98 %

### Conditions and measure s 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 measure s 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 measure s related to personal protection, hygiene and health evaluation

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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 measure s 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**

Contributi ng 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	

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### Workers

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

## 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, servic es, 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

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Annual amount per site : 200 tons/year Value Type (Msafe) - Daily : 1.565 tons/day

amount per site

Remarks : freshwater, freshwater sedim ent

Value Type (Msafe) - Daily

amount per site

Remarks : soil

Value Type (Msafe) - Daily

amount per site

: 3600 tons/day

: 86.6 tons/day

Remarks : sewage treatment pl ant

Frequency and duration of use

Single exposure : 365 days/year

Environmental factors not influenced by risk management

Flow rate :  $18000 \text{ m}^3/\text{d}$ 

Other given operational conditions affecting environmental exposure

Num ber of emission days per year : 365
Emission or Release Factor: Air : 0.1 %
Emission or Rel ease Factor: Water : 2 %

Release rate applicable to air : 0.00011 kg/day
Release rate applicable to water : 0.0022 kg/day
Concentration in untreated : < 0.000001 mg/

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

2000 m<sup>3</sup>/d

plant effluent

Version 4.0 EN Revision date 10 November 2017 Print date 10 November 2017

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 measure s 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 measure s 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

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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 measure s 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**

Contributi ng 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	

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#### Workers

Contributi ng 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/m <sup>3</sup>	0.966667	
PROC8b	Used ART model.		Worker - inhalative, long-term - local	0.17 mg/m <sup>3</sup>	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, servic es, 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 : 0.00723 kg/day

amount per site

Remarks : freshwater, freshwater sedim ent

Value Type (Msafe) - Daily : 0.449 tons/day

amount per site

Remarks : soil

Value Type (Msafe) - Daily amount per site

Version 4.0 EN : 3590 tons/day

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Remarks : sewage treatment pl ant

Frequency and duration of use

Single exposure : 365 days/year

Environmental factors not influenced by risk management

Flow rate :  $18000 \text{ m}^3/\text{d}$ 

Other given operational conditions affecting environmental exposure

Num ber of emission days per year : 365 Emission or Release Factor: Air : 0.1 % Emission or Rel ease Factor: Water : 2 %

Release rate applicable to water : 0.00001 kg/day
Release rate applicable to air : 0.000001 kg/day
Concentration in untreated : < 0.000001 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 effl uent

: 2000 m<sup>3</sup>/d

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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 minut es/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 measure s 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 measure s related to personal protection, hygiene and health evaluation

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

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### 3. Exposure estimation and reference to its source

### **Environment**

Contributi ng 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

Contributi ng 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, servic es, 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

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### 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 : 0.00783 kg/day

amount per site

Remarks : freshwater, freshwater sedim ent

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 pl ant

Frequency and duration of use

Single exposure : 365 days/year

Environmental factors not influenced by risk management

Flow rate :  $18000 \text{ m}^3/\text{d}$ 

Other given operational conditions affecting environmental exposure

Num ber of emission days per year : 365 Emission or Release Factor: Air : 100 % Emission or Rel ease Factor: Water : 100 %

Release rate applicable to air : 0.00055 kg/day
Release rate applicable to water : 0.000055 kg/day
Concentration in untreated : < 0.00001 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 effl uent

: 2000 m³/d

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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 minut es/day Frequency of use : 5 days/week

### Other given operational conditions affecting worker exposure

Outdoor / Indoor : indoor

### Conditions and measure s 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 minut es/day Frequency of use : 5 days/week

## Other given operational conditions affecting worker exposure

Outdoor / Indoor : indoor

### Conditions and measure s 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**

Contributi	Exposure	Specific	Compartment	Level of	RCR	Remarks
ng Scenario	Assessment Method	conditions		Exposure		
ERC8A	EASYTRA		freshwater	0.016 µg/l	0.070009	

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ERC8A	EASYTRA	freshwat	er 0.059 µg/kg	0.070018	
		sedimer	nt dry weight		
ERC8A	EASYTRA	Soil	0.0005 µg/kg dry weight	0.000001	
ERC8A	EASYTRA	grasslan	0.0004 µg/kg dry weight	0.000001	
ERC8A	EASYTRA	sewage treatmen plant (ST	nt	0.000001	

#### Workers

Contributi ng 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, servic es, 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 Annual amount per site Value Type (Msafe) - Daily 0.000548 kg/d1 tons/year

amount per site

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Version 4.0 EN : 0.00723 kg/day

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Print date 10 November 2017 Remarks

: freshwater, freshwater sedim ent

0.449 tons/day Value Type (Msafe) - Daily

amount per site

Remarks : soil

: 3590 tons/day Value Type (Msafe) - Daily

amount per site

Remarks : sewage treatment pl ant

Frequency and duration of use

Single exposure : 365 days/year

Environmental factors not influenced by risk management

: 18000 m<sup>3</sup>/d Flow rate

Other given operational conditions affecting environmental exposure

Num ber of emission days per year : 365 Emission or Release Factor: Air : 0.1 % Emission or Rel ease Factor: Water : 2 %

Release rate applicable to water : 0.00001 kg/day : 0.000001 kg/day Release rate applicable to air : < 0.000001 mg/l Concentration in untreated

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 effl uent

: 2000 m<sup>3</sup>/d

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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 minut es/day Frequency of use : 5 days/week

## Other given operational conditions affecting worker exposure

Outdoor / Indoor : indoor

### Conditions and measure s 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 minut es/day Frequency of use : 5 days/week

### Other given operational conditions affecting worker exposure

Outdoor / Indoor : indoor

## Conditions and measure s related to personal protection, hygiene and health evaluation

Wear respiratory protection.

Effectiveness: 94 %

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

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### Exposure estimation and reference to its source

#### **Environment**

Contributi ng 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

Contributi ng 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	

# 3. 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, servic es, 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

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### **Amount used**

Daily amount for wide disperse

Annual amount for wide disperse

: 2 tons/year

Value Type (Msafe) - Daily

amount per site

: 0.0157 kg/day

: 0.001096 kg/d

Remarks Value Type (Msafe) - Daily

: freshwater, freshwater sedim ent : 0.897 tons/day

amount per site

Remarks : soil

Value Type (Msafe) - Daily

amount per site

Remarks

: 3600 tons/day

: sewage treatment pl ant

Frequency and duration of use

Single exposure : 365 days/year

Environmental factors not influenced by risk management

: 18000 m<sup>3</sup>/d Flow rate

Other given operational conditions affecting environmental exposure

Num ber of emission days per year : 365 Emission or Release Factor: Air : 0.1 % Emission or Rel ease 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

: The substance degrades rapidly during the use and when Remarks

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 effl uent

: 2000 m<sup>3</sup>/d

: < 0.000001 mg/l

Sludge Treatm ent

sludge to soil

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### 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 minut es/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 measure s 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**

Contributi ng 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	

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### Workers

Contributi ng 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.

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

: SU3 - Industrial uses: Uses of substances as such or in Main User Group

preparations at industrial sites

: ERC6b - Industrial use of reactive processing aids Environmental release category

Sector of use SU9 - Manufacture of fine chemicals

**PROC1 -** Use in closed process, no likelihood of exposure Process category

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 : 6417.012 kg/day Value Type (Msafe) - Daily

amount per site

Remarks : freshwater : 6416.216 kg/day

Value Type (Msafe) - Daily

amount per site

: freshwater sediment Remarks

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

: 18000 m<sup>3</sup>/d Flow rate

Other given operational conditions affecting environmental exposure

Num ber of emission days per year : 20 : 0.1 % Emission or Release Factor: Air Emission or Rel ease 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

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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 measure s related to municipal sewage treatment plant

Type of Sewage Treatment Plant : Municipal STP

Flow rate of sewage treatment

plant effluent

: 2000 m<sup>3</sup>/d

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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 measure s 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 measure s related to personal protection, hygiene and health evaluation

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

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### 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 measure s 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

arise

S

### **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 measure s 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

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### 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 measure s 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 measure s 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**

Contributi ng 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	

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ERC6B	EASYTRA	S	ewage	0.018 µg/l	0.000347	
		tre	atment			
		pla	nt (STP)			

### Workers

Contributi ng 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, servic es, 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 ofexposure

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

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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

: 0.005479 tons/day

uses

Annual amount for wide disperse

: 10 tons/year

uses

Value Type (Msafe) - Daily

: 0.078268 kg/day

amount per site

Remarks

: freshwater

Value Type (Msafe) - Daily

0.078258 kg/day

amount per site

Remarks

freshwater sediment

Value Type (Msafe) - Daily

: 4478.573 tons/day

amount per site

Remarks

Remarks

: soil

Value Type (Msafe) - Daily

3590 tons/day

amount per site

·

: sewage treatment plant

Frequency and duration of use

Single exposure : 365 days/year

Environmental factors not influenced by risk management

Flow rate : 18000 m<sup>3</sup>/d

Other given operational conditions affecting environmental exposure

Num ber of emission days per year : 365
Emission or Release Factor: Air : 0.1 %
Emission or Rel ease Factor: Water : 2 %

Release rate applicable to water : 0.00011 kg/day

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Release rate applicable to air

Concentration in untreated

wastewaters

0.000006 kg/day< 0.000001 mg/l</li>

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 measure s related to municipal sewage treatment plant

Type of Sewage Treatment Plant : Municipal STP

Flow rate of sewage treatment

plant effluent

: 2000 m<sup>3</sup>/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 measure s 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

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### Other given operational conditions affe cting worker exposure

Outdoor / Indoor : indoor

### Technical conditions and measures

Local exhaust Effectiveness: 98 %

### Conditions and measure s 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 measure s 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 %

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### Conditions and measure s 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 measure s 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 measure s related to personal protection, hygiene and health evaluation

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

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## 3. Exposure estimation and reference to its source

### **Environment**

Contributi ng 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**

Contributi ng 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/m <sup>3</sup>	0.383333	
PROC9	Used ART model.		Worker - inhalative, long-term - local	0.23 mg/m <sup>3</sup>	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.