

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Substance in aqueous solution

Trade name Van Iperen Potassium Phosphite 50% Liquid

IUPAC name : Phosphonic acid, potassium salt (1:1)

EC no : 604-162-9 CAS No : 13977-65-6 REACH registration No : 01-2119988836-13-

Formula : KH2PO3

Synonyms : Potassium phosphite 50% Liquid

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

1.2.1. Relevant identified uses

Main use category : Industrial use
Professional use

Use of the substance/mixture : Use as raw material for fertilizer solutions in agriculture and horticulture.

Use as foliar fertiliser

Function or use category : Fertilisers

Remark relevant uses : Consult for a complete list of uses and relevant exposure scenario the annex or the scenarios

which are available at your supplier

Title	Use descriptors
Manufacturing of the substance (ES Ref: KH2PO3 9.1)	PROC3, PROC4, PROC8a, PROC8b, PROC9, PROC15, ERC1
Formulation of the fertilizer (ES Ref: KH2PO3 9.2)	PC12, PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC9, PROC15, ERC2
Industrial use as intermediate (ES Ref: KH2PO3 9.7)	SU9, PC19, PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC9, PROC15, ERC6a
Professional use as fertilizer indoor (ES Ref: KH2PO3 9.3)	SU1, PROC5, PROC8a, PROC8b, PROC9, PROC11, ERC8a
Professional use as fertilizer outdoor (ES Ref: KH2PO3 9.4)	SU1, PROC5, PROC8a, PROC8b, PROC9, PROC11, ERC8d
Consumer use as fertilizers indoor (ES Ref: KH2PO3 9.5)	PC12, ERC8a
Consumer use as fertilizers outdoor (ES Ref: KH2PO3 9.6)	PC12, ERC8d

Full text of use descriptors: see section 16

## 1.2.2. Uses advised against

No additional information available

## 1.3. Details of the supplier of the safety data sheet

Van Iperen International BV

Smidsweg 24

3273 LK Westmaas - Nederland

T +31 (0) 186 578 888 - F +31 (0) 186 573 452

info@iperen.com - www.vaniperen.com

### 1.4. Emergency telephone number

In case of emergency contact the national emergency telephone number: UK and Ireland: 112 or 999

Country	Official advisory body	Address	Emergency number
Ireland (Republic of)	National Poisons Information Centre Beaumont Hospital	Beaumont Hospital Beaumont Road 9 Dublin	: +353 1 8379964
United Kingdom	Guy's & St Thomas' Poisons Unit Medical Toxicology Unit, Guy's & St Thomas' Hospital Trust	Avonley Road SE14 5ER London	0870 243 2241

## **SECTION 2: Hazards identification**

## 2.1. Classification of the substance or mixture

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

Eye Irrit. 2 H319

Full text of H-phrases: see section 16

Adverse physicochemical, human health and environmental effects

No additional information available



#### 2.2. Label elements

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

Hazard pictograms (CLP)

CLP Signal word Warning

Hazard statements (CLP) H319 - Causes serious eye irritation

P264 - Wash hands thoroughly after handling Precautionary statements (CLP)

P280 - Wear protective gloves, protective clothing, eye protection

P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove

contact lenses, if present and easy to do. Continue rinsing

P337+P313 - If eye irritation persists: Get medical advice/attention

#### 2.3. Other hazards

This substance/mixture does not meet the PBT criteria of REACH, annex XIII. This substance/mixture does not meet the vPvB criteria of REACH, annex XIII.

## SECTION 3: Composition/information on ingredients

#### 3.1. Substances

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Potassium phosphite	(CAS No) 13977-65-6 (EC no) 604-162-9 (REACH-no) 01-2119988836-13-	45 - 55	Eye Irrit. 2, H319

Full text of R-, H- and EUH-phrases: see section 16

#### 3.2. **Mixture**

Not applicable

## **SECTION 4: First aid measures**

4.1. Description of first aid measures	4.1.	Descri	ption o	of first	aid	measures
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First-aid measures general

: Check the vital functions.

Unconscious: maintain adequate airway and respiration.

Respiratory arrest: artificial respiration or oxygen.

Cardiac arrest: perform resuscitation.

Victim conscious with laboured breathing: half-seated. Victim in shock: on his back with legs slightly raised. Vomiting: prevent asphyxia/aspiration pneumonia. Prevent cooling by covering the victim (no warming up). Keep watching the victim. Give psychological aid.

Keep the victim calm, avoid physical strain.

Depending on the victim's condition: doctor/hospital

Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service. First-aid measures after inhalation First-aid measures after skin contact

Wash immediately with lots of water. Soap may be used. If on skin, take off contaminated clothing. If on skin and if skin irritation or rash occurs, seek medical advice and attention.

Immediately flush eyes with plenty of water (> 15min), occasionally lifting the upper and lower First-aid measures after eye contact

eyelids. Remove contact lenses, if present and easy to do. Continue rinsing.

Take victim to an ophthalmologist if irritation persists.

First-aid measures after ingestion Rinse mouth with water. Do not induce vomiting. Do not give an unconscious person anything to

drink. Consult a doctor/medical service if you feel unwell.

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

Symptoms/injuries after inhalation Inhalation of airborne droplets or aerosols may cause irritation of the respiratory tract

Symptoms/injuries after skin contact Contact during a long period may cause light irritation.

Symptoms/injuries after eye contact Causes serious eye damage.

Symptoms may include: irritation of the eye tissue, redness of the eye tissue.

Symptoms/injuries after ingestion After absorption of high quantities: nausea, vomiting, diarrhoea, irritation of the gastric/intestinal

Chronic symptoms : On continuous/repeated exposure/contact: red skin. dry skin, itching.

## Indication of any immediate medical attention and special treatment needed

Treat symptomatically. Follow the advices in chapter 4.1



### SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Extinguishing media for surrounding fires : All extinguishing media allowed.

Use fire extinguishing methods suitable to surrounding conditions.

Unsuitable extinguishing media : No unsuitable extinguishing media known.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Non combustible.

Explosion hazard : No direct explosion hazard.

Reactivity : On burning: release of toxic and corrosive gases/vapours (phosphorus oxides, potassium

oxides)

5.3. Advice for firefighters

Precautionary measures fire : Exposure to fire/heat: keep upwind, consider evacuation and have neighbourhood close doors

and windows

Firefighting instructions : Cool tanks/drums with water spray/remove them into safety.

Do not move the load if exposed to heat. Dilute toxic gases with water spray.

Protection during firefighting : Heat/fire exposure: compressed air/oxygen apparatus.

### **SECTION 6: Accidental release measures**

### 6.1. Personal precautions, protective equipment and emergency procedures

General measures : Ensure adequate air ventilation.

Avoid all eye and skin contact and do not breathe vapour and mist.

6.1.1. For non-emergency personnel

Protective equipment : Wear protective gloves/protective clothing/eye protection as adviced in section 8.

Emergency procedures : Mark the danger area. Keep unnecessary and unprotected personnel from entering.

Wash contaminated clothes.

6.1.2. For emergency responders

Protective equipment : Wear protective gloves/protective clothing/eye protection as adviced in section 8. Wear suitable

respiratory equipment in case of insufficient ventilation or in case of prolonged exposure.

### 6.2. Environmental precautions

Prevent spreading in sewers. Prevent soil and water pollution. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

## 6.3. Methods and material for containment and cleaning up

For containment : Stop leak if safe to do so. Any spillage should be cleaned up immediately. Collect spill in closed

and suitable containers for disposal. Take up rest of liquid spill into absorbent material sand,

earth, vermiculite. Scoop absorbed substance into closing containers.

Methods for cleaning up : Clean contaminated surfaces with an excess of water.

Wash clothing and equipment after handling.

Other information : Dispose the product, depending on the degree and type of contamination, either as fertilizer or in

an authorized waste disposal site.

### 6.4. Reference to other sections

See section 1 for emergency contact information.

See section 8 for information on appropriate personal protective equipment.

See section 13 for additional waste treatment information

## **SECTION 7: Handling and storage**

## 7.1. Precautions for safe handling

Precautions for safe handling : Avoid contact with skin and eyes. Wear protective gloves/protective clothing/eye protection as

adviced in section 8. Carry operations in the open air/under local exhaust or at sufficient ventilation to keep airborne levels below recommend/statutory exposure levels.

Meet the legal requirements. Keep container tightly closed.

Hygiene measures : Do not eat, drink or smoke during use. If on skin, take off contaminated clothing. Care for

eyewashstations and security showers at the workplace. Keep away from food, drink and animal feedingstuffs. Always wash hands after handling the product.

## 7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep preferably in the original container.

Incompatible materials : Keep away from iron, metal, lead.

Storage temperature : -10 - 30 °

Heat and ignition sources : Keep substance away from: heat sources.

Prohibitions on mixed storage : Keep substancee away from: oxidizing agents, (strong) acids.

Storage area : Meet the legal requirements.



Special rules on packaging : Keep packaging closed when not in use. Do not store in unlabelled containers. Meet the legal

requirements. Secure fragile packagings in solid containers.

Packaging materials : Suitable material: polyethylene, stainless steel.

7.3. Specific end use(s)

Fertilizers. Consult the identified uses in the annex of this MSDS.

## SECTION 8: Exposure controls/personal protection

#### 8.1. **Control parameters**

Potassium phosphite (13977-65-6)			
DNEL/DMEL (Workers)			
Long-term - systemic effects, dermal	59 mg/kg bodyweight/day	Repeated dose toxicity	
Long-term - systemic effects, inhalation	41,2 mg/m³	Repeated dose toxicity	
DNEL/DMEL (General population)			
Long-term - systemic effects,oral	2,9 mg/kg bodyweight/day	Repeated dose toxicity	
Long-term - systemic effects, inhalation	10,2 mg/m <sup>3</sup>	Repeated dose toxicity	
Long-term - systemic effects, dermal	29 mg/kg bodyweight/day	Repeated dose toxicity	
PNEC (Water)			
PNEC aqua (freshwater)	0,137 mg/l		
PNEC aqua (marine water)	0,0137 mg/l		
PNEC aqua (intermittent, freshwater)	1,37 mg/l		
PNEC (Sediment)			
PNEC sediment (freshwater)	0,117 mg/kg dwt		
PNEC sediment (marine water)	0,0117 mg/kg dwt		
PNEC (Soil)		,	
PNEC soil	1 mg/kg dwt		
PNEC (STP)			
PNEC sewage treatment plant	100 mg/l		

#### 8.2. **Exposure controls**

Environmental exposure controls

Appropriate engineering controls Ensure good ventilation of the work station.

Care for eyewashstations and security showers at the workplace.

Personal protective equipment







Gloves. Hand protection

Material selection gloves Good resistance gives:,rubber.

Take advice to your gloves' supplier. Replace damaged gloves

Eye protection Tightly fitting safety goggles. Skin and body protection Wear suitable protective clothing.

If this product is handled normally, there is no demand of any respiratory protection. Respiratory protection

Mist formation: aerosol mask with filter type P2. Do not allow to enter drains or water courses.

See section 13 for additional waste treatment information.

Other information See section 7. Training staff on good practice.

## SECTION 9: Physical and chemical properties

## Information on basic physical and chemical properties

Physical state Liquid Appearance Liquid. Molecular mass 120,08 g/mol Colour Colourless. Characteristic. Odour Odour threshold No data available Melting point Not applicable Crystallization temperature -15 °C Boiling point +/- 105 °C

Vapour pressure Negligible vapour pressure at ambient conditions

Relative vapour density at 20 °C No data available

Relative density

1,39 kg/l (25°C) Density Solubility Water: complete



Log Pow : insoluble in octanol

Log Kow : Not applicable. Inorganic chemical substance

Decomposition temperature : 180 °C
Viscosity, dynamic : <100 mPa.s
Explosive properties : not explosive.
Oxidising properties : not oxidising.

9.2. Other information

Other properties : Clear.

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

On burning: release of toxic and corrosive gases/vapours (phosphorus oxides, potassium oxides).

### 10.2. Chemical stability

The product is stable at normal handling and storage conditions.

### 10.3. Possibility of hazardous reactions

To our knowledge, the product does not present any particular risk, under normal conditions of use.

### 10.4. Conditions to avoid

Temperatures lower than -10°C. Avoid high temperatures.

### 10.5. Incompatible materials

Keep substance away from: metals. metal powders.

### 10.6. Hazardous decomposition products

On burning: release of toxic and corrosive gases/vapours (phosphine, phosphorus oxides). This reaction is accelerated on exposure to (some)

## **SECTION 11: Toxicological information**

### 11.1. Information on toxicological effects

Acute toxicity : Not classified (Based on available data, the classification criteria are not met)

Potassium phosphite (13977-65-6)	
LD50 oral rat	> 2000 mg/kg EU Method B.1 tris Test material: KH2PO3/K2HPO3 Reference: Salvador M.(2013a)
LD50 dermal rat	> 5050 mg/kg OECD Guideline 402 Test material: KH2PO3/K2HPO3 Reference: Salvador M.(2013a)
LC50 inhalation rat (mg/l)	Not considered as appropriate, based also on vapour pressure
Skin corrosion/irritation	: Not classified (Based on available data, the classification criteria are not met) Explanation skin corrosion/irritation In vitro study OECD Guideline 439 (In Vitro Skin Irritation) Viability index: > 92.1 of max. 100 (mean) (Time point: 3h) (Not applicable) (A value > 50 indicates no irritation potential) Test material (Common name): Potassium Phosphonate KH2PO3/K2HPO3 Reference: Bisini L. Biol.D (2013)
Serious eye damage/irritation	: Causes serious eye irritation. Symptoms may include: redness of the eye tissue, lacrimation Explanation serious eye damage/irritation In vitro study in vitro; bovine cornea OECD Guideline 437 (Bovine Corneal Opacity and Permeability Test) Test material (Common name): Mono Potassium Phosphonate
Respiratory or skin sensitisation	: Not classified (Based on available data, the classification criteria are not met)
Germ cell mutagenicity	: Not classified (Based on available data, the classification criteria are not met) Explanation germ cell mutagenicity In vitro genotoxicity studies OECD Guideline 471 (Bacterial Reverse Mutation Assay) EU Method B.13/14 (Mutagenicity - Reverse Mutation Test Using Bacteria) Test material (Common name): Potassium Phosphonate KH2PO3/K2HPO3 Reference: Scarcella O.Biol.D (2013)
Carcinogenicity	: Not classified (Based on available data, the classification criteria are not met)
Reproductive toxicity	: Not classified (Based on available data, the classification criteria are not met)
Specific target organ toxicity (single exposure)	: Not classified (Based on available data, the classification criteria are not met)
Specific target organ toxicity (repeated exposure)	: Not classified (Based on available data, the classification criteria are not met)
Potassium phosphite (13977-65-6)	



Potassium phosphite (13977-65-6)	
NOAEL (subacute,oral, animal/male,28 days)	> 1000 mg/kg bodyweight Rat (Sprague-Dawley) male/female Test material (Common name): Potassium Phosphonate KH2PO3/K2HPO3 OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test) Reference: Cicalese R. (2013)
A 1 (1 1 1	No. 1. 10 1 10 1 1 1 1 1 1 1 1 1 1 1 1 1 1

Aspiration hazard : Not classified (Based on available data, the classification criteria are not met)

## SECTION 12: Ecological information

#### 12.1. **Toxicity**

Ecology - general : Classification concerning the environment: not applicable.

: May cause eutrophication. Ecology - water

Potassium phosphite (13977-65-6)	
LC50 fishes 1	> 200 mg/l 96-h OECD Guideline 203 (Fish, Acute Toxicity Test) Brachydanio rerio (new name: Danio rerio) Test material (Common name): Potassium Phosphonate KH2PO3/K2HPO3 Reference: Tediosi E. (2013a)
LC50 other aquatic organisms 1	137,5 mg/l 72-h Algae OECD Guideline 201 (Alga, Growth Inhibition Test) Test material (Common name): Potassium Phosphonate KH2PO3/K2HPO3 Reference: Tediosi E., (2013)
EC50 Daphnia 1	> 200 mg/l 48-h Daphnia magna OECD Guideline 202 (Daphnia sp.Acute Immobilisation Test) Test material (Common name): Potassium Phosphonate KH2PO3/K2HPO3 Reference: Tediosi E., Dini R. (2013)

#### 12.2. Persistence and degradability

Potassium phosphite (13977-65-6)	
Persistence and degradability	Biodegradability: not applicable.

#### 12.3. Bioaccumulative potential

Potassium phosphite (13977-65-6)	
Log Pow	insoluble in octanol
Log Kow	Not applicable. Inorganic chemical substance
Bioaccumulative potential	No bioaccumulation or biomagnifications are expected based on substance properties (Log Pow < 1).

#### 12.4. Mobility in soil

Potassium phosphite (13977-65-6)	
Ecology - soil	Soluble in water. Will complety dissociate into ions.

#### Results of PBT and vPvB assessment 12.5.

	Potassium phosphite (13977-65-6)
ĺ	This substance/mixture does not meet the PBT criteria of REACH, annex XIII.
ĺ	This substance/mixture does not meet the vPvB criteria of REACH, annex XIII.

#### 12.6. Other adverse effects

Other information : No other effects known.

## **SECTION 13: Disposal considerations**

## Waste treatment methods

EURAL code : 06 03 14 - solid salts and solutions other than those mentioned in 06 03 11 and 06 03 13

Depending on branch of industry and production process, also other EURAL codes may be applicable

Regional legislation (waste) : Disposal must be done according to official regulations.

Waste treatment methods Dispose of surplus and non-recyclable products via a licensed waste disposal contractor.

Dispose the product, depending on the degree and type of contamination, either as fertilizer or in

an authorized waste disposal site.

Waste disposal recommendations Remove waste in accordance with local and/or national regulations. The generation of waste

should be avoided or minimized wherever possible. Care should be taken when handling

emptied containers that have not been cleaned or rinsed out.

Additional information The user's attention is drawn to the possible existence of specific european, national or local

regulations regarding disposal.

Ecology - waste materials : Avoid release to the environment.



## SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA

14.1. UN number

No dangerous good in sense of transport regulations

14.2. UN proper shipping name

Not applicable

14.3. Transport hazard class(es)

Not applicable

14.4. Packing group

Not applicable

14.5. Environmental hazards

Other information : No supplementary information available.

14.6. Special precautions for user

14.6.1. Overland transport

No additional information available

14.6.2. Transport by sea

No additional information available

14.6.3. Air transport

No additional information available

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

Not applicable

## SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

No REACH Annex XVII restrictions

Contains no REACH candidate substance

15.1.2. National regulations

Regional legislation : Ensure all national/local regulations are observed.

15.2. Chemical safety assessment

A chemical safety assessment has been carried out

## **SECTION 16: Other information**

 Version
 : 5.01

 Revision date
 : 31-01-2014

 Date of issue
 : 05-01-2009

 Supersedes
 : 09-08-2013

Indication of changes : Section 9.1. Density adapted.

Data sources : Test information BIG-database

Handbook of Chemistry and Physics CRC Press Inc

REACH registration dossier.

Abbreviations and acronyms : CLP = Classification, labelling and packaging

DNEL = Derivative No Effect Level

n.a. = not applicable

PNEC = Predicted No Effect Concentration

REACH = Registration, evaluation and autorisation of chemicals.

Training advice : Normal use of this product shall imply use in accordance with the instructions on the packaging.

Before using/handling the product one must read carefully the MSDS.

Full text of R-, H- and EUH-phrases::

Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
H319	Causes serious eye irritation
R36	Irritating to eyes
Xi	Irritant
ERC1	Manufacture of substances
ERC2	Formulation of preparations
ERC6a	Industrial use resulting in manufacture of another substance (use of intermediates)
ERC8a	Wide dispersive indoor use of processing aids in open systems
ERC8d	Wide dispersive outdoor use of processing aids in open systems
PC12	Fertilizers
PC19	Intermediate
PROC1	Use in closed process, no likelihood of exposure



PROC11	Non industrial spraying
PROC15	Use as laboratory reagent
PROC2	Use in closed, continuous process with occasional controlled exposure
PROC3	Use in closed batch process (synthesis or formulation)
PROC4	Use in batch and other process (synthesis) where opportunity for exposure arises
PROC5	Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact)
PROC8a	Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities
PROC8b	Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
PROC9	Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
SU1	Agriculture, forestry, fishery
SU9	Manufacture of fine chemicals

## Company disclaimer

The information provided in this safety data sheet is correct to the best of our knowledge, information, and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal, and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any proceed, unless specified in the text.

## 1. Exposure scenario KH2PO3 9.2

Formulation & (re)packing of substances and mixtures

ES Ref: KH2PO3 9.2 ES Type: Worker Version: 1 Revision date: 04-07-2013

Use descriptors	PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC9, PROC15 ERC2
Processes, tasks, activities covered	Industrial use
Assessment method	Used ECETOC TRA model

## 2. Operational conditions and risk management measures

Contributing scenario controlling environmental exposure (ERC2)

ERC2	Formulation of preparations
Assessment method	Used ECETOC TRA model

### Product characteristics

Physical form of product	Solution
Concentration of substance in product	50 %

### Operational conditions

Amounts used	Fraction of Regional tonnage used locally:	100 %
	Maximum daily site tonnage (tonnes/day):	9,5
	Annual site tonnage (tonnes/year):	< 950
Environmental factors not influenced by risk management	Receiving surface water flow	18000 m³/d

**Risk Management Measures** 

Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	Remove waste in accordance with local and/or national regulations	
Organisation measures to prevent/limit release from site	Prevent environmental discharge consistent with regulatory requirements	
Conditions and measures related to municipal sewage treatment plant	Municipal STP: Yes	0,013 % Effectiveness water
	Discharge rate of STP	> 2000 m³/d
	Application of STP sludge to agricultural soil: Yes	
Conditions and measures related to external treatment of waste for disposal	External treatment and disposal of waste should comply with applicable local and/or national regulations	
Conditions and measures related to external recovery of waste	External recovery and recycling of waste should comply with applicable local and/or national regulations	

## 2. Operational conditions and risk management measures (continue)

2.1.1	Contributing	scenario	controlling	worker ex	posure (	(PROC3)	,
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PROC3 Use in closed batch process (synthesis or formulation)

## Product characteristics

Physical form of product	Solution
Concentration of substance in product	50 %

Operational conditions			
Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated		
	differently)		



Other given operational conditions affecting workers exposure	Indoor use	40 °C
	Maximum process temperature  Exposed skin surface assumed:	240 cm <sup>2</sup>
	Exposed skill sulface assumed.	one hand face only
	_	,
Risk Management Measures		To the first of th
Technical conditions and measures at process level (source) to prevent release	Good general ventilation should be sufficient to control worker exposure to airborne contaminants	3 air changes/hour
to prevent release	Local exhaust ventilation: no	
Organisational measures to prevent /limit releases, dispersion	Keep good industrial hygiene	
and exposure	, , ,	
Conditions and measures related to personal protection,	Hand or dermal protection not applicable. Respiratory	
hygiene and health evaluation	protection not applicable. Wear safety glasses	
	wear salety glasses	<u> </u>
2.1.2 Contributing scenario controlling worker exposure	e (PROC4)	
PROC4 Use in batch and other proces	ss (synthesis) where opportunity for exposure arises	
<b>-</b>		
Product characteristics	Colution	
Physical form of product  Concentration of substance in product	Solution 50 %	
Concentration of Substance in product	30 /0	
Operational conditions		
Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated	
Other sives energical and this are affect.	differently)	
Other given operational conditions affecting workers exposure	Indoor use Maximum process temperature	40 °C
	Exposed skin surface assumed:	480 cm <sup>2</sup>
	Expense of the contract accounted.	two hands face
Risk Management Measures		T
Technical conditions and measures at process level (source)	Good general ventilation should be sufficient to control	3 air changes/hour
to prevent release	worker exposure to airborne contaminants  Local exhaust ventilation: no	
Organisational measures to prevent /limit releases, dispersion	Keep good industrial hygiene	
Oluanisalional measures to prevent /illill releases, dispersion		
and exposure	Troop good madding mygrene	
and exposure  Conditions and measures related to personal protection,	Wear suitable gloves (tested to EN374) and eye protection.	
and exposure  Conditions and measures related to personal protection, hygiene and health evaluation  2. Operational conditions and risk manage	Wear suitable gloves (tested to EN374) and eye protection. Respiratory protection not applicable  ment measures (continue)	
and exposure  Conditions and measures related to personal protection, hygiene and health evaluation  2. Operational conditions and risk manage 2.1.3 Contributing scenario controlling worker exposure PROC8a Transfer of substance or prepared.	Wear suitable gloves (tested to EN374) and eye protection. Respiratory protection not applicable  ment measures (continue)	at non dedicated facilities
and exposure  Conditions and measures related to personal protection, hygiene and health evaluation  2. Operational conditions and risk manage 2.1.3 Contributing scenario controlling worker exposure PROC8a Transfer of substance or preproduct characteristics	Wear suitable gloves (tested to EN374) and eye protection. Respiratory protection not applicable  ment measures (continue) a (PROC8a) paration (charging/discharging) from/to vessels/large containers a	at non dedicated facilities
and exposure  Conditions and measures related to personal protection, hygiene and health evaluation  2. Operational conditions and risk manage 2.1.3 Contributing scenario controlling worker exposure PROC8a Transfer of substance or prepared.	Wear suitable gloves (tested to EN374) and eye protection. Respiratory protection not applicable  ment measures (continue) e (PROC8a)	at non dedicated facilities
and exposure  Conditions and measures related to personal protection, hygiene and health evaluation  2. Operational conditions and risk manage 2.1.3 Contributing scenario controlling worker exposure PROC8a Transfer of substance or prepared to the product characteristics  Physical form of product  Concentration of substance in product	Wear suitable gloves (tested to EN374) and eye protection. Respiratory protection not applicable  ment measures (continue) a (PROC8a)  baration (charging/discharging) from/to vessels/large containers a	at non dedicated facilities
and exposure  Conditions and measures related to personal protection, hygiene and health evaluation  2. Operational conditions and risk manage 2.1.3 Contributing scenario controlling worker exposure PROC8a Transfer of substance or preproduct characteristics  Physical form of product  Concentration of substance in product  Operational conditions	Wear suitable gloves (tested to EN374) and eye protection. Respiratory protection not applicable  ment measures (continue) e (PROC8a) earation (charging/discharging) from/to vessels/large containers a  Solution 50 %	at non dedicated facilities
and exposure  Conditions and measures related to personal protection, hygiene and health evaluation  2. Operational conditions and risk manage 2.1.3 Contributing scenario controlling worker exposure PROC8a Transfer of substance or prepared to the product characteristics  Physical form of product  Concentration of substance in product	Wear suitable gloves (tested to EN374) and eye protection. Respiratory protection not applicable  ment measures (continue) e (PROC8a) paration (charging/discharging) from/to vessels/large containers a  Solution 50 %  Covers daily exposures up to 8 hours (unless stated	at non dedicated facilities
and exposure  Conditions and measures related to personal protection, hygiene and health evaluation  2. Operational conditions and risk manage 2.1.3 Contributing scenario controlling worker exposure PROC8a Transfer of substance or prepersonal form of product Concentration of substance in product  Operational conditions  Frequency and duration of use	Wear suitable gloves (tested to EN374) and eye protection. Respiratory protection not applicable  ment measures (continue) a (PROC8a)  aration (charging/discharging) from/to vessels/large containers a  Solution 50 %  Covers daily exposures up to 8 hours (unless stated differently)	at non dedicated facilities
and exposure  Conditions and measures related to personal protection, hygiene and health evaluation  2. Operational conditions and risk manage 2.1.3 Contributing scenario controlling worker exposure PROC8a Transfer of substance or preproduct characteristics  Physical form of product  Concentration of substance in product  Operational conditions	Wear suitable gloves (tested to EN374) and eye protection. Respiratory protection not applicable  ment measures (continue) e (PROC8a) paration (charging/discharging) from/to vessels/large containers a  Solution 50 %  Covers daily exposures up to 8 hours (unless stated differently) Indoor use	at non dedicated facilities
and exposure  Conditions and measures related to personal protection, hygiene and health evaluation  2. Operational conditions and risk manage 2.1.3 Contributing scenario controlling worker exposure PROC8a Transfer of substance or prepersonal form of product Concentration of substance in product  Operational conditions  Frequency and duration of use	Wear suitable gloves (tested to EN374) and eye protection. Respiratory protection not applicable  ment measures (continue) a (PROC8a)  aration (charging/discharging) from/to vessels/large containers a  Solution 50 %  Covers daily exposures up to 8 hours (unless stated differently)	
and exposure  Conditions and measures related to personal protection, hygiene and health evaluation  2. Operational conditions and risk manage 2.1.3 Contributing scenario controlling worker exposure PROC8a Transfer of substance or prepersonal form of product Concentration of substance in product  Operational conditions  Frequency and duration of use	Wear suitable gloves (tested to EN374) and eye protection. Respiratory protection not applicable  ment measures (continue) e (PROC8a) paration (charging/discharging) from/to vessels/large containers a  Solution 50 %  Covers daily exposures up to 8 hours (unless stated differently) Indoor use Maximum process temperature	40 °C
and exposure  Conditions and measures related to personal protection, hygiene and health evaluation  2. Operational conditions and risk manage 2.1.3 Contributing scenario controlling worker exposure PROC8a Transfer of substance or prepereduct characteristics  Physical form of product Concentration of substance in product  Operational conditions  Frequency and duration of use  Other given operational conditions affecting workers exposure	Wear suitable gloves (tested to EN374) and eye protection. Respiratory protection not applicable  ment measures (continue) e (PROC8a) paration (charging/discharging) from/to vessels/large containers a  Solution 50 %  Covers daily exposures up to 8 hours (unless stated differently) Indoor use Maximum process temperature	40 °C 960 cm <sup>2</sup>
and exposure  Conditions and measures related to personal protection, hygiene and health evaluation  2. Operational conditions and risk manage 2.1.3 Contributing scenario controlling worker exposure PROC8a Transfer of substance or preperoduct characteristics  Physical form of product Concentration of substance in product  Operational conditions  Frequency and duration of use  Other given operational conditions affecting workers exposure  Risk Management Measures	Wear suitable gloves (tested to EN374) and eye protection. Respiratory protection not applicable  ment measures (continue) a (PROC8a) baration (charging/discharging) from/to vessels/large containers a  Solution 50 %  Covers daily exposures up to 8 hours (unless stated differently) Indoor use Maximum process temperature Exposed skin surface assumed:	40 °C 960 cm² two hands
and exposure  Conditions and measures related to personal protection, hygiene and health evaluation  2. Operational conditions and risk manage 2.1.3 Contributing scenario controlling worker exposure PROC8a Transfer of substance or prepereduct characteristics  Physical form of product Concentration of substance in product  Operational conditions  Frequency and duration of use  Other given operational conditions affecting workers exposure	Wear suitable gloves (tested to EN374) and eye protection. Respiratory protection not applicable  ment measures (continue) e (PROC8a) paration (charging/discharging) from/to vessels/large containers a  Solution 50 %  Covers daily exposures up to 8 hours (unless stated differently) Indoor use Maximum process temperature	40 °C 960 cm <sup>2</sup>
and exposure  Conditions and measures related to personal protection, hygiene and health evaluation  2. Operational conditions and risk manage 2.1.3 Contributing scenario controlling worker exposure PROC8a Transfer of substance or prepared to the product characteristics  Physical form of product Concentration of substance in product  Operational conditions  Frequency and duration of use  Other given operational conditions affecting workers exposure  Risk Management Measures  Technical conditions and measures at process level (source) to prevent release	Wear suitable gloves (tested to EN374) and eye protection. Respiratory protection not applicable  ment measures (continue) e (PROC8a) paration (charging/discharging) from/to vessels/large containers as a solution 50 %  Covers daily exposures up to 8 hours (unless stated differently) Indoor use Maximum process temperature Exposed skin surface assumed:  Good general ventilation should be sufficient to control worker exposure to airborne contaminants Local exhaust ventilation: no	40 °C 960 cm² two hands
and exposure  Conditions and measures related to personal protection, hygiene and health evaluation  2. Operational conditions and risk manage 2.1.3 Contributing scenario controlling worker exposure PROC8a Transfer of substance or preperoduct characteristics  Physical form of product Concentration of substance in product  Operational conditions  Frequency and duration of use  Other given operational conditions affecting workers exposure  Risk Management Measures  Technical conditions and measures at process level (source) to prevent release  Organisational measures to prevent /limit releases, dispersion	Wear suitable gloves (tested to EN374) and eye protection. Respiratory protection not applicable  ment measures (continue) e (PROC8a) paration (charging/discharging) from/to vessels/large containers as  Solution 50 %  Covers daily exposures up to 8 hours (unless stated differently) Indoor use Maximum process temperature Exposed skin surface assumed:  Good general ventilation should be sufficient to control worker exposure to airborne contaminants	40 °C 960 cm² two hands
and exposure  Conditions and measures related to personal protection, hygiene and health evaluation  2. Operational conditions and risk manage 2.1.3 Contributing scenario controlling worker exposure PROC8a Transfer of substance or preperoduct characteristics  Physical form of product Concentration of substance in product  Operational conditions  Frequency and duration of use  Other given operational conditions affecting workers exposure  Risk Management Measures  Technical conditions and measures at process level (source) to prevent release  Organisational measures to prevent /limit releases, dispersion and exposure	Wear suitable gloves (tested to EN374) and eye protection. Respiratory protection not applicable  ment measures (continue) a (PROC8a) baration (charging/discharging) from/to vessels/large containers a  Solution 50 %  Covers daily exposures up to 8 hours (unless stated differently) Indoor use Maximum process temperature Exposed skin surface assumed:  Good general ventilation should be sufficient to control worker exposure to airborne contaminants Local exhaust ventilation: no Keep good industrial hygiene	40 °C 960 cm² two hands
and exposure Conditions and measures related to personal protection, hygiene and health evaluation  2. Operational conditions and risk manage 2.1.3 Contributing scenario controlling worker exposure PROC8a Transfer of substance or preparation of substance or preparation of substance in product Concentration of substance in product  Operational conditions Frequency and duration of use  Other given operational conditions affecting workers exposure  Risk Management Measures Technical conditions and measures at process level (source) to prevent release  Organisational measures to prevent /limit releases, dispersion and exposure Conditions and measures related to personal protection,	Wear suitable gloves (tested to EN374) and eye protection. Respiratory protection not applicable  ment measures (continue) (PROC8a) Paration (charging/discharging) from/to vessels/large containers and solution 50 %  Covers daily exposures up to 8 hours (unless stated differently) Indoor use Maximum process temperature Exposed skin surface assumed:  Good general ventilation should be sufficient to control worker exposure to airborne contaminants Local exhaust ventilation: no Keep good industrial hygiene  Wear suitable gloves (tested to EN374) and eye protection.	40 °C 960 cm² two hands
and exposure  Conditions and measures related to personal protection, hygiene and health evaluation  2. Operational conditions and risk manage 2.1.3 Contributing scenario controlling worker exposure PROC8a Transfer of substance or preperoduct characteristics  Physical form of product Concentration of substance in product  Operational conditions  Frequency and duration of use  Other given operational conditions affecting workers exposure  Risk Management Measures  Technical conditions and measures at process level (source) to prevent release  Organisational measures to prevent /limit releases, dispersion and exposure	Wear suitable gloves (tested to EN374) and eye protection. Respiratory protection not applicable  ment measures (continue) a (PROC8a) baration (charging/discharging) from/to vessels/large containers a  Solution 50 %  Covers daily exposures up to 8 hours (unless stated differently) Indoor use Maximum process temperature Exposed skin surface assumed:  Good general ventilation should be sufficient to control worker exposure to airborne contaminants Local exhaust ventilation: no Keep good industrial hygiene	40 °C 960 cm² two hands
and exposure  Conditions and measures related to personal protection, hygiene and health evaluation  2. Operational conditions and risk manage 2.1.3 Contributing scenario controlling worker exposure PROC8a Transfer of substance or preperoduct characteristics  Physical form of product Concentration of substance in product  Operational conditions  Frequency and duration of use  Other given operational conditions affecting workers exposure  Risk Management Measures  Technical conditions and measures at process level (source) to prevent release  Organisational measures to prevent /limit releases, dispersion and exposure  Conditions and measures related to personal protection, hygiene and health evaluation  2.1.4 Contributing scenario controlling worker exposure	Wear suitable gloves (tested to EN374) and eye protection. Respiratory protection not applicable  ment measures (continue) a (PROC8a) paration (charging/discharging) from/to vessels/large containers a  Solution 50 %  Covers daily exposures up to 8 hours (unless stated differently) Indoor use Maximum process temperature Exposed skin surface assumed:  Good general ventilation should be sufficient to control worker exposure to airborne contaminants Local exhaust ventilation: no Keep good industrial hygiene  Wear suitable gloves (tested to EN374) and eye protection. Respiratory protection not applicable	40 °C 960 cm² two hands 3 air changes/hour
and exposure  Conditions and measures related to personal protection, hygiene and health evaluation  2. Operational conditions and risk manage 2.1.3 Contributing scenario controlling worker exposure PROC8a Transfer of substance or preperoduct characteristics  Physical form of product Concentration of substance in product  Operational conditions  Frequency and duration of use  Other given operational conditions affecting workers exposure  Risk Management Measures  Technical conditions and measures at process level (source) to prevent release  Organisational measures to prevent /limit releases, dispersion and exposure  Conditions and measures related to personal protection, hygiene and health evaluation  2.1.4 Contributing scenario controlling worker exposure	Wear suitable gloves (tested to EN374) and eye protection. Respiratory protection not applicable  ment measures (continue) e (PROC8a) paration (charging/discharging) from/to vessels/large containers as a solution 50 %  Covers daily exposures up to 8 hours (unless stated differently) Indoor use Maximum process temperature Exposed skin surface assumed:  Good general ventilation should be sufficient to control worker exposure to airborne contaminants Local exhaust ventilation: no Keep good industrial hygiene  Wear suitable gloves (tested to EN374) and eye protection. Respiratory protection not applicable	40 °C 960 cm² two hands 3 air changes/hour
and exposure  Conditions and measures related to personal protection, hygiene and health evaluation  2. Operational conditions and risk manage 2.1.3 Contributing scenario controlling worker exposure PROC8a Transfer of substance or prepared to product characteristics  Physical form of product Concentration of substance in product  Operational conditions  Frequency and duration of use  Other given operational conditions affecting workers exposure  Risk Management Measures  Technical conditions and measures at process level (source) to prevent release  Organisational measures to prevent /limit releases, dispersion and exposure  Conditions and measures related to personal protection, hygiene and health evaluation  2.1.4 Contributing scenario controlling worker exposure	Wear suitable gloves (tested to EN374) and eye protection. Respiratory protection not applicable  ment measures (continue) a (PROC8a) paration (charging/discharging) from/to vessels/large containers a  Solution 50 %  Covers daily exposures up to 8 hours (unless stated differently) Indoor use Maximum process temperature Exposed skin surface assumed:  Good general ventilation should be sufficient to control worker exposure to airborne contaminants Local exhaust ventilation: no Keep good industrial hygiene  Wear suitable gloves (tested to EN374) and eye protection. Respiratory protection not applicable	40 °C 960 cm² two hands 3 air changes/hour
and exposure  Conditions and measures related to personal protection, hygiene and health evaluation  2. Operational conditions and risk manage 2.1.3 Contributing scenario controlling worker exposure PROC8a Transfer of substance or preparation of substance or preparation of substance in product Concentration of substance in product  Operational conditions  Frequency and duration of use  Other given operational conditions affecting workers exposure  Risk Management Measures  Technical conditions and measures at process level (source) to prevent release  Organisational measures to prevent /limit releases, dispersion and exposure  Conditions and measures related to personal protection, hygiene and health evaluation  2.1.4 Contributing scenario controlling worker exposure  PROC8b Transfer of substance or preports.	Wear suitable gloves (tested to EN374) and eye protection. Respiratory protection not applicable  ment measures (continue) (PROC8a) Paration (charging/discharging) from/to vessels/large containers and solution 50 %  Covers daily exposures up to 8 hours (unless stated differently) Indoor use Maximum process temperature Exposed skin surface assumed:  Good general ventilation should be sufficient to control worker exposure to airborne contaminants Local exhaust ventilation: no Keep good industrial hygiene  Wear suitable gloves (tested to EN374) and eye protection. Respiratory protection not applicable  (PROC8b) Paration (charging/discharging) from/to vessels/large containers and protection (	40 °C 960 cm² two hands 3 air changes/hour
and exposure  Conditions and measures related to personal protection, hygiene and health evaluation  2. Operational conditions and risk manage 2.1.3 Contributing scenario controlling worker exposure PROC8a Transfer of substance or prepared to product characteristics  Physical form of product Concentration of substance in product  Operational conditions  Frequency and duration of use  Other given operational conditions affecting workers exposure  Risk Management Measures  Technical conditions and measures at process level (source) to prevent release  Organisational measures to prevent /limit releases, dispersion and exposure  Conditions and measures related to personal protection, hygiene and health evaluation  2.1.4 Contributing scenario controlling worker exposure  PROC8b Transfer of substance or preproduct characteristics  Physical form of product	Wear suitable gloves (tested to EN374) and eye protection. Respiratory protection not applicable  ment measures (continue) a (PROC8a) paration (charging/discharging) from/to vessels/large containers a  Solution 50 %  Covers daily exposures up to 8 hours (unless stated differently) Indoor use Maximum process temperature Exposed skin surface assumed:  Good general ventilation should be sufficient to control worker exposure to airborne contaminants Local exhaust ventilation: no Keep good industrial hygiene  Wear suitable gloves (tested to EN374) and eye protection. Respiratory protection not applicable	40 °C 960 cm² two hands 3 air changes/hour
and exposure  Conditions and measures related to personal protection, hygiene and health evaluation  2. Operational conditions and risk manage 2.1.3 Contributing scenario controlling worker exposure PROC8a Transfer of substance or preproduct characteristics  Physical form of product Concentration of substance in product  Operational conditions  Frequency and duration of use  Other given operational conditions affecting workers exposure  Risk Management Measures  Technical conditions and measures at process level (source) to prevent release  Organisational measures to prevent /limit releases, dispersion and exposure  Conditions and measures related to personal protection, hygiene and health evaluation  2.1.4 Contributing scenario controlling worker exposure PROC8b Transfer of substance or preproduct characteristics  Physical form of product  Concentration of substance in product	Wear suitable gloves (tested to EN374) and eye protection. Respiratory protection not applicable  ment measures (continue) (PROC8a) Paration (charging/discharging) from/to vessels/large containers and solution 50 %  Covers daily exposures up to 8 hours (unless stated differently) Indoor use Maximum process temperature Exposed skin surface assumed:  Good general ventilation should be sufficient to control worker exposure to airborne contaminants Local exhaust ventilation: no Keep good industrial hygiene  Wear suitable gloves (tested to EN374) and eye protection. Respiratory protection not applicable  (PROC8b) Paration (charging/discharging) from/to vessels/large containers and solution	40 °C 960 cm² two hands 3 air changes/hour
and exposure  Conditions and measures related to personal protection, hygiene and health evaluation  2. Operational conditions and risk manage 2.1.3 Contributing scenario controlling worker exposure PROC8a Transfer of substance or prepared product characteristics  Physical form of product  Concentration of substance in product  Operational conditions  Frequency and duration of use  Other given operational conditions affecting workers exposure  Risk Management Measures  Technical conditions and measures at process level (source) to prevent release  Organisational measures to prevent /limit releases, dispersion and exposure  Conditions and measures related to personal protection, hygiene and health evaluation  2.1.4 Contributing scenario controlling worker exposure  PROC8b Transfer of substance or prepared product characteristics  Physical form of product  Concentration of substance in product  Operational conditions	Wear suitable gloves (tested to EN374) and eye protection. Respiratory protection not applicable  ment measures (continue) (PROC8a) Paration (charging/discharging) from/to vessels/large containers and solution Keep good industrial hygiene Wear suitable gloves (tested to EN374) and eye protection. Respiratory protection not applicable Solution Solution Solution Solution Solution Solution Solution	40 °C 960 cm² two hands 3 air changes/hour
and exposure  Conditions and measures related to personal protection, hygiene and health evaluation  2. Operational conditions and risk manage 2.1.3 Contributing scenario controlling worker exposure PROC8a Transfer of substance or preproduct characteristics  Physical form of product Concentration of substance in product  Operational conditions  Frequency and duration of use  Other given operational conditions affecting workers exposure  Risk Management Measures  Technical conditions and measures at process level (source) to prevent release  Organisational measures to prevent /limit releases, dispersion and exposure  Conditions and measures related to personal protection, hygiene and health evaluation  2.1.4 Contributing scenario controlling worker exposure PROC8b Transfer of substance or preproduct characteristics  Physical form of product  Concentration of substance in product	Wear suitable gloves (tested to EN374) and eye protection. Respiratory protection not applicable  ment measures (continue) (PROC8a) Paration (charging/discharging) from/to vessels/large containers and solution  50 %  Covers daily exposures up to 8 hours (unless stated differently) Indoor use Maximum process temperature Exposed skin surface assumed:  Good general ventilation should be sufficient to control worker exposure to airborne contaminants Local exhaust ventilation: no Keep good industrial hygiene  Wear suitable gloves (tested to EN374) and eye protection. Respiratory protection not applicable  (PROC8b) Paration (charging/discharging) from/to vessels/large containers and solution  50 %  Covers daily exposures up to 8 hours (unless stated	40 °C 960 cm² two hands 3 air changes/hour
and exposure Conditions and measures related to personal protection, hygiene and health evaluation  2. Operational conditions and risk manage 2.1.3 Contributing scenario controlling worker exposure PROC8a Transfer of substance or preparation of substance in product Concentration of substance in product Concentration of substance in product  Operational conditions Frequency and duration of use  Other given operational conditions affecting workers exposure  Risk Management Measures Technical conditions and measures at process level (source) to prevent release  Organisational measures to prevent /limit releases, dispersion and exposure Conditions and measures related to personal protection, hygiene and health evaluation  2.1.4 Contributing scenario controlling worker exposure PROC8b Transfer of substance or preproduct characteristics Physical form of product Concentration of substance in product  Operational conditions Frequency and duration of use	Wear suitable gloves (tested to EN374) and eye protection. Respiratory protection not applicable  ment measures (continue) (PROC8a) Paration (charging/discharging) from/to vessels/large containers and solution  50 %  Covers daily exposures up to 8 hours (unless stated differently) Indoor use Maximum process temperature Exposed skin surface assumed:  Good general ventilation should be sufficient to control worker exposure to airborne contaminants Local exhaust ventilation: no Keep good industrial hygiene  Wear suitable gloves (tested to EN374) and eye protection. Respiratory protection not applicable  (PROC8b) Paration (charging/discharging) from/to vessels/large containers and solution  50 %  Covers daily exposures up to 8 hours (unless stated differently)	40 °C 960 cm² two hands 3 air changes/hour
and exposure  Conditions and measures related to personal protection, hygiene and health evaluation  2. Operational conditions and risk manage 2.1.3 Contributing scenario controlling worker exposure PROC8a Transfer of substance or prepared product characteristics  Physical form of product  Concentration of substance in product  Operational conditions  Frequency and duration of use  Other given operational conditions affecting workers exposure  Risk Management Measures  Technical conditions and measures at process level (source) to prevent release  Organisational measures to prevent /limit releases, dispersion and exposure  Conditions and measures related to personal protection, hygiene and health evaluation  2.1.4 Contributing scenario controlling worker exposure  PROC8b Transfer of substance or prepared product characteristics  Physical form of product  Concentration of substance in product  Operational conditions	Wear suitable gloves (tested to EN374) and eye protection. Respiratory protection not applicable  ment measures (continue) (PROC8a)  Paration (charging/discharging) from/to vessels/large containers and solution  50 %  Covers daily exposures up to 8 hours (unless stated differently)  Indoor use  Maximum process temperature  Exposed skin surface assumed:  Good general ventilation should be sufficient to control worker exposure to airborne contaminants  Local exhaust ventilation: no  Keep good industrial hygiene  Wear suitable gloves (tested to EN374) and eye protection. Respiratory protection not applicable  (PROC8b)  Paration (charging/discharging) from/to vessels/large containers and solution  50 %  Covers daily exposures up to 8 hours (unless stated differently)  Indoor use	40 °C 960 cm² two hands 3 air changes/hour
and exposure Conditions and measures related to personal protection, hygiene and health evaluation  2. Operational conditions and risk manage 2.1.3 Contributing scenario controlling worker exposure PROC8a Transfer of substance or preparation of substance in product Concentration of substance in product Concentration of substance in product  Operational conditions Frequency and duration of use  Other given operational conditions affecting workers exposure  Risk Management Measures Technical conditions and measures at process level (source) to prevent release  Organisational measures to prevent /limit releases, dispersion and exposure Conditions and measures related to personal protection, hygiene and health evaluation  2.1.4 Contributing scenario controlling worker exposure PROC8b Transfer of substance or preproduct characteristics Physical form of product Concentration of substance in product  Operational conditions Frequency and duration of use	Wear suitable gloves (tested to EN374) and eye protection. Respiratory protection not applicable  ment measures (continue) (PROC8a) Paration (charging/discharging) from/to vessels/large containers and solution  50 %  Covers daily exposures up to 8 hours (unless stated differently) Indoor use Maximum process temperature Exposed skin surface assumed:  Good general ventilation should be sufficient to control worker exposure to airborne contaminants Local exhaust ventilation: no Keep good industrial hygiene  Wear suitable gloves (tested to EN374) and eye protection. Respiratory protection not applicable  (PROC8b) Paration (charging/discharging) from/to vessels/large containers and solution  50 %  Covers daily exposures up to 8 hours (unless stated differently)	40 °C 960 cm² two hands  3 air changes/hour



		two hands
Risk Management Measures		
Technical conditions and measures at process level (source) to prevent release	Good general ventilation should be sufficient to control worker exposure to airborne contaminants  Local exhaust ventilation: no	3 air changes/hour
Organisational measures to prevent /limit releases, dispersion and exposure	Keep good industrial hygiene	
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves (tested to EN374) and eye protection. Respiratory protection not applicable	

to prevent release	worker exposure to airborne contaminants	
	Local exhaust ventilation: no	
Organisational measures to prevent /limit releases, dispersion and exposure	Keep good industrial hygiene	
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves (tested to EN374) and eye protection. Respiratory protection not applicable	
2. Operational conditions and risk manage		
2.1.5 Contributing scenario controlling worker exposure		
PROC9 Transfer of substance or prep	paration into small containers (dedicated filling line, including wei	ghing)
Product characteristics		
Physical form of product	Solution	
Concentration of substance in product	50 %	
0		
Operational conditions	10 13 101 11	T
Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated differently)	
Other given operational conditions affecting workers exposure	Indoor use	
	Maximum process temperature	40 °C
	Exposed skin surface assumed:	480 cm <sup>2</sup>
		two hands face
Risk Management Measures		
Technical conditions and measures at process level (source)	Good general ventilation should be sufficient to control	3 air changes/hour
to prevent release	worker exposure to airborne contaminants	
	Local exhaust ventilation: no	
Organisational measures to prevent /limit releases, dispersion and exposure	Keep good industrial hygiene	
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves (tested to EN374) and eye protection. Respiratory protection not applicable	
Trygione and nearth evaluation	respiratory protestion not applicable	
2.1.6 Contributing scenario controlling worker exposure	e (PROC15)	
PROC15 Use as laboratory reagent		
Product characteristics		
Physical form of product	Solution	
Concentration of substance in product	50 %	

Physical form of product	Solution
Concentration of substance in product	50 %
Vapour pressure	23 hPa
Viscosity, dynamic	< 100 mPa.s

Operational conditions

Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated	
	differently)	
Other given operational conditions affecting workers exposure	Indoor use	
	Maximum process temperature	40 °C
	Exposed skin surface assumed:	240 cm <sup>2</sup>
		one hand face only

Risk Management Measures

Technical conditions and measures at process level (source)	Good general ventilation should be sufficient to control	3 air changes/hour
to prevent release	worker exposure to airborne contaminants	
	Local exhaust ventilation: no	
Organisational measures to prevent /limit releases, dispersion	Keep good industrial hygiene	
and exposure		
Conditions and measures related to personal protection,	Hand or dermal protection not applicable. Respiratory	
hygiene and health evaluation	protection not applicable.	
	Wear safety glasses	

# 2. Operational conditions and risk management measures (continue) 2.1.7 Contributing scenario controlling worker exposure (PROC5)

Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact)

## **Product characteristics**

Physical form of product	Solution
Concentration of substance in product	> 25 %
Vapour pressure	23 hPa
Viscosity, dynamic	< 100 mPa.s

## **Operational conditions**

Frequency and duration of use	< 4 hours/ day	
Human factors not influenced by risk management	Not applicable	



Conditions and measures related to personal protection,

Other given operational conditions affecting workers exposure	Indoor use	
	Maximum process temperature	40 °C
	Exposed skin surface assumed:	480 cm <sup>2</sup>
		two hands face
Risk Management Measures		
Technical conditions and measures at process level (source) to prevent release	Good general ventilation should be sufficient to control worker exposure to airborne contaminants	3 air changes/hour
·	Local exhaust ventilation: no	
Organisational measures to prevent /limit releases, dispersion	The appropriate type of chemical protective glove/safety	

glasses has to be selected specially

Respiratory protection not applicable

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

# 3. Exposure estimation and reference to its source 3.1. Health

and exposure

hygiene and health evaluation

Long-term - systemic effect	ts					
DNEL	Inhalation: 41,2 mg/m³ Dermal: 59 mg/kg bodyweight/day					
Contributing Scenario	inhalation exposure mg/m³	RCR	dermal exposure mg/kg bodyweight/day	RCR	Sum RCR	Assessment method Inhalation: Used ECETOC TRA model Dermal: Used ECETOC TRA model
PROC3	0,5	0,012	0,69	0,012	0,024	
PROC4	0,5	0,012	1,372	0,023	0,035	
PROC8a	0,5	0,012	2,742	0,046	0,058	
PROC8b	0,5	0,012	2,742	0,046	0,058	
PROC9	0,5	0,012	1,372	0,023	0,035	
PROC15	0,5	0,012	0,34	0,006	0,018	
PROC5	0,3	0,007	2,742	0,046	0,053	

# 3. Exposure estimation and reference to its source (continue) 3.2. Environment

Environmental exposure	Unit	Exposure estimation	PNEC	RCR	Assessment method
Freshwater	mg/l	0,009	0,137	0,066	Used ECETOC TRA model
Marine water	mg/l	0,000936	0,0137	0,068	Used ECETOC TRA model
Freshwater sediment	mg/kg dwt	0,035	0,117	0,299	Used ECETOC TRA model
Marine water sediment	mg/kg dwt	0,003	0,0117	0,256	Used ECETOC TRA model
Sewage treatment plant	mg/l	0,047	100	0,000	Used ECETOC TRA model
Soil	ma/ka dwt	0.0007919	1	0.001	Used FCFTOC TRA model

## 4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the ES

ii Galaalioo to Bolliloti	cam ecci to evaluate whether he werke melae the beardance cot by the 20
4.1. Health	
Guidance - Health	Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in section 2 are implemented. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels
4.2. Environment	
Guidance - Environment	If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety

## 1. Exposure scenario KH2PO3 9.3

ES Ref: KH2PO3 9.3 Professional use of potassium phosphite as fertilizer (indoor) ES Type: Worker Version: 1

Revision date: 04-07-2013

Use descriptors	PROC5, PROC8a, PROC8b, PROC9, PROC11
· ·	SU1
	ERC8d
Processes, tasks, activities covered	Professional use
Accoccment method	Used ECETOC TRA model

## 2. Operational conditions and risk management measures

2.2 Contributing scenario controlling environmental exposure (ERC8a)		
ERC8a	Wide dispersive indoor use of processing aids in open systems	
Assessment method	Used ECETOC TRA model	

### **Product characteristics**



Physical form of product	Liquid	
Concentration of substance in product	50 %	
	1	
Operational conditions		
Amounts used	Daily amount for wide dispersive uses	0,00011 tonnes/day
Frequency and duration of use	Fraction of Regional tonnage used locally:  Daily wide dispersive use	10 %
Environmental factors not influenced by risk management	Receiving surface water flow	18000 m³/d
Other given operational conditions affecting environmental	Indoor use	18000 11190
exposure	mader dec	
Frequency and duration of use	Percentage of tonnage used at regional scale	10 %
Other given operational conditions affecting workers exposure	Indoor use	
Risk Management Measures	Discharge to equation an irranment is rectricted (see Continu	T
Technical conditions and measures at process level (source) to prevent release	Discharge to aquatic environment is restricted (see Section 4.2),Do not allow uncontrolled discharge of product into the	
to prevent release	environment	
Technical onsite conditions and measures to reduce or limit	Remove waste in accordance with local and/or national	
discharges, air emissions and releases to soil	regulations	
Organisation measures to prevent/limit release from site	Prevent environmental discharge consistent with regulatory	
0 19	requirements	0.040.0/
Conditions and measures related to municipal sewage	Municipal STP: Yes	0,013 % Effectiveness water
treatment plant	Discharge rate of STP	> 2000 m³/d
	Application of STP sludge to agricultural soil: Yes	> 2000 III /u
	1 - TE Parison of O Stadyo to agriculturation. 100	1
2. Operational conditions and risk manage		
.1.1 Contributing scenario controlling worker exposure	e (PROC5)	
PROC5 Mixing or blending in batch pr	rocesses for formulation of preparations and articles (multistage a	and/or significant contact)
Product characteristics		
Physical form of product	Solution	
Concentration of substance in product	> 25 %	
onionimation of outstance in product	1 20 70	
Operational conditions		
Frequency and duration of use	< 4 hours/ day	
Human factors not influenced by risk management	Not applicable	
Other given operational conditions affecting workers exposure	Indoor use	1000
	Maximum process temperature	40 °C
	Exposed skin surface assumed:	480 cm <sup>2</sup> two hands face
Specific operational conditions:		two flarids face
Risk Management Measures		
Technical conditions and measures at process level (source)	Good general ventilation should be sufficient to control	3 air changes/hour
Technical conditions and measures at process level (source)	worker exposure to airborne contaminants	3 air changes/hour
Technical conditions and measures at process level (source) to prevent release	worker exposure to airborne contaminants Local exhaust ventilation: no	3 air changes/hour
Technical conditions and measures at process level (source) to prevent release  Organisational measures to prevent /limit releases, dispersion	worker exposure to airborne contaminants  Local exhaust ventilation: no  The appropriate type of chemical protective glove/safety	3 air changes/hour
Technical conditions and measures at process level (source) to prevent release  Organisational measures to prevent /limit releases, dispersion and exposure	worker exposure to airborne contaminants  Local exhaust ventilation: no  The appropriate type of chemical protective glove/safety glasses has to be selected specially	3 air changes/hour
Technical conditions and measures at process level (source) to prevent release  Organisational measures to prevent /limit releases, dispersion and exposure  Conditions and measures related to personal protection,	worker exposure to airborne contaminants Local exhaust ventilation: no The appropriate type of chemical protective glove/safety glasses has to be selected specially Wear suitable gloves (tested to EN374) and eye protection.	3 air changes/hour
Technical conditions and measures at process level (source) to prevent release  Organisational measures to prevent /limit releases, dispersion and exposure  Conditions and measures related to personal protection, hygiene and health evaluation	worker exposure to airborne contaminants Local exhaust ventilation: no The appropriate type of chemical protective glove/safety glasses has to be selected specially Wear suitable gloves (tested to EN374) and eye protection. Respiratory protection not applicable	3 air changes/hour
Technical conditions and measures at process level (source) to prevent release  Organisational measures to prevent /limit releases, dispersion and exposure  Conditions and measures related to personal protection, hygiene and health evaluation  1.2 Contributing scenario controlling worker exposure	worker exposure to airborne contaminants Local exhaust ventilation: no The appropriate type of chemical protective glove/safety glasses has to be selected specially Wear suitable gloves (tested to EN374) and eye protection. Respiratory protection not applicable	3 air changes/hour
Technical conditions and measures at process level (source) to prevent release  Organisational measures to prevent /limit releases, dispersion and exposure  Conditions and measures related to personal protection, hygiene and health evaluation  1.2 Contributing scenario controlling worker exposure	worker exposure to airborne contaminants Local exhaust ventilation: no The appropriate type of chemical protective glove/safety glasses has to be selected specially Wear suitable gloves (tested to EN374) and eye protection. Respiratory protection not applicable	3 air changes/hour
Technical conditions and measures at process level (source) to prevent release  Organisational measures to prevent /limit releases, dispersion and exposure  Conditions and measures related to personal protection, hygiene and health evaluation  .1.2 Contributing scenario controlling worker exposure PROC11  Non industrial spraying	worker exposure to airborne contaminants Local exhaust ventilation: no The appropriate type of chemical protective glove/safety glasses has to be selected specially Wear suitable gloves (tested to EN374) and eye protection. Respiratory protection not applicable	3 air changes/hour
Technical conditions and measures at process level (source) to prevent release  Organisational measures to prevent /limit releases, dispersion and exposure  Conditions and measures related to personal protection, hygiene and health evaluation  1.2 Contributing scenario controlling worker exposure PROC11 Non industrial spraying  Product characteristics	worker exposure to airborne contaminants Local exhaust ventilation: no The appropriate type of chemical protective glove/safety glasses has to be selected specially Wear suitable gloves (tested to EN374) and eye protection. Respiratory protection not applicable	3 air changes/hour
Technical conditions and measures at process level (source) to prevent release  Organisational measures to prevent /limit releases, dispersion and exposure  Conditions and measures related to personal protection, hygiene and health evaluation  1.2 Contributing scenario controlling worker exposure PROC11 Non industrial spraying  Product characteristics  Physical form of product	worker exposure to airborne contaminants  Local exhaust ventilation: no  The appropriate type of chemical protective glove/safety glasses has to be selected specially  Wear suitable gloves (tested to EN374) and eye protection.  Respiratory protection not applicable  (PROC11)  Solution	3 air changes/hour
Technical conditions and measures at process level (source) to prevent release  Organisational measures to prevent /limit releases, dispersion and exposure  Conditions and measures related to personal protection, hygiene and health evaluation  1.2 Contributing scenario controlling worker exposure PROC11 Non industrial spraying  Product characteristics	worker exposure to airborne contaminants Local exhaust ventilation: no The appropriate type of chemical protective glove/safety glasses has to be selected specially Wear suitable gloves (tested to EN374) and eye protection. Respiratory protection not applicable	3 air changes/hour
Technical conditions and measures at process level (source) to prevent release  Organisational measures to prevent /limit releases, dispersion and exposure  Conditions and measures related to personal protection, hygiene and health evaluation  1.2 Contributing scenario controlling worker exposure PROC11 Non industrial spraying  Product characteristics Physical form of product  Concentration of substance in product  Operational conditions	worker exposure to airborne contaminants  Local exhaust ventilation: no  The appropriate type of chemical protective glove/safety glasses has to be selected specially  Wear suitable gloves (tested to EN374) and eye protection.  Respiratory protection not applicable  (PROC11)  Solution	3 air changes/hour
Technical conditions and measures at process level (source) to prevent release  Organisational measures to prevent /limit releases, dispersion and exposure  Conditions and measures related to personal protection, hygiene and health evaluation  1.2 Contributing scenario controlling worker exposure PROC11 Non industrial spraying  Product characteristics Physical form of product Concentration of substance in product  Operational conditions Frequency and duration of use	worker exposure to airborne contaminants  Local exhaust ventilation: no The appropriate type of chemical protective glove/safety glasses has to be selected specially Wear suitable gloves (tested to EN374) and eye protection. Respiratory protection not applicable  (PROC11)  Solution > 25 %	3 air changes/hour
Technical conditions and measures at process level (source) to prevent release  Organisational measures to prevent /limit releases, dispersion and exposure  Conditions and measures related to personal protection, hygiene and health evaluation  1.2 Contributing scenario controlling worker exposure PROC11 Non industrial spraying  Product characteristics Physical form of product Concentration of substance in product  Operational conditions Frequency and duration of use Human factors not influenced by risk management	worker exposure to airborne contaminants  Local exhaust ventilation: no The appropriate type of chemical protective glove/safety glasses has to be selected specially Wear suitable gloves (tested to EN374) and eye protection. Respiratory protection not applicable  e (PROC11)  Solution > 25 %  < 4 hours/ day Not applicable	3 air changes/hour
Technical conditions and measures at process level (source) to prevent release  Organisational measures to prevent /limit releases, dispersion and exposure  Conditions and measures related to personal protection, hygiene and health evaluation  1.2 Contributing scenario controlling worker exposure PROC11 Non industrial spraying  Product characteristics Physical form of product Concentration of substance in product  Operational conditions Frequency and duration of use Human factors not influenced by risk management	worker exposure to airborne contaminants  Local exhaust ventilation: no The appropriate type of chemical protective glove/safety glasses has to be selected specially Wear suitable gloves (tested to EN374) and eye protection. Respiratory protection not applicable  (PROC11)  Solution > 25 %  < 4 hours/ day Not applicable Indoor use	
Technical conditions and measures at process level (source) to prevent release  Organisational measures to prevent /limit releases, dispersion and exposure  Conditions and measures related to personal protection, hygiene and health evaluation  1.2 Contributing scenario controlling worker exposure PROC11 Non industrial spraying  Product characteristics Physical form of product Concentration of substance in product  Operational conditions Frequency and duration of use Human factors not influenced by risk management	worker exposure to airborne contaminants  Local exhaust ventilation: no The appropriate type of chemical protective glove/safety glasses has to be selected specially Wear suitable gloves (tested to EN374) and eye protection. Respiratory protection not applicable  (PROC11)  Solution > 25 %  4 hours/ day Not applicable Indoor use Maximum process temperature	40 °C
Technical conditions and measures at process level (source) to prevent release  Organisational measures to prevent /limit releases, dispersion and exposure  Conditions and measures related to personal protection, hygiene and health evaluation  1.2 Contributing scenario controlling worker exposure PROC11 Non industrial spraying  Product characteristics Physical form of product Concentration of substance in product  Operational conditions Frequency and duration of use Human factors not influenced by risk management	worker exposure to airborne contaminants  Local exhaust ventilation: no The appropriate type of chemical protective glove/safety glasses has to be selected specially Wear suitable gloves (tested to EN374) and eye protection. Respiratory protection not applicable  (PROC11)  Solution > 25 %  < 4 hours/ day Not applicable Indoor use	40 °C 1500 cm <sup>2</sup>
Technical conditions and measures at process level (source) to prevent release  Organisational measures to prevent /limit releases, dispersion and exposure  Conditions and measures related to personal protection, hygiene and health evaluation  .1.2 Contributing scenario controlling worker exposure PROC11 Non industrial spraying  Product characteristics  Physical form of product  Concentration of substance in product	worker exposure to airborne contaminants  Local exhaust ventilation: no The appropriate type of chemical protective glove/safety glasses has to be selected specially Wear suitable gloves (tested to EN374) and eye protection. Respiratory protection not applicable  (PROC11)  Solution > 25 %  4 hours/ day Not applicable Indoor use Maximum process temperature	40 °C
Technical conditions and measures at process level (source) to prevent release  Organisational measures to prevent /limit releases, dispersion and exposure  Conditions and measures related to personal protection, hygiene and health evaluation  2.1.2 Contributing scenario controlling worker exposure PROC11 Non industrial spraying  Product characteristics Physical form of product Concentration of substance in product  Operational conditions  Frequency and duration of use Human factors not influenced by risk management Other given operational conditions affecting workers exposure	worker exposure to airborne contaminants  Local exhaust ventilation: no The appropriate type of chemical protective glove/safety glasses has to be selected specially Wear suitable gloves (tested to EN374) and eye protection. Respiratory protection not applicable  (PROC11)  Solution > 25 %  4 hours/ day Not applicable Indoor use Maximum process temperature	40 °C 1500 cm <sup>2</sup>
Technical conditions and measures at process level (source) to prevent release  Organisational measures to prevent /limit releases, dispersion and exposure  Conditions and measures related to personal protection, hygiene and health evaluation  2.1.2 Contributing scenario controlling worker exposure PROC11 Non industrial spraying  Product characteristics Physical form of product Concentration of substance in product  Operational conditions Frequency and duration of use Human factors not influenced by risk management	worker exposure to airborne contaminants  Local exhaust ventilation: no The appropriate type of chemical protective glove/safety glasses has to be selected specially Wear suitable gloves (tested to EN374) and eye protection. Respiratory protection not applicable  (PROC11)  Solution > 25 %  4 hours/ day Not applicable Indoor use Maximum process temperature	40 °C 1500 cm <sup>2</sup>
Technical conditions and measures at process level (source) to prevent release  Organisational measures to prevent /limit releases, dispersion and exposure  Conditions and measures related to personal protection, hygiene and health evaluation  .1.2 Contributing scenario controlling worker exposure PROC11 Non industrial spraying  Product characteristics Physical form of product Concentration of substance in product  Operational conditions Frequency and duration of use Human factors not influenced by risk management Other given operational conditions affecting workers exposure  Risk Management Measures Technical conditions and measures at process level (source)	worker exposure to airborne contaminants  Local exhaust ventilation: no The appropriate type of chemical protective glove/safety glasses has to be selected specially Wear suitable gloves (tested to EN374) and eye protection. Respiratory protection not applicable  (PROC11)  Solution > 25 %  < 4 hours/ day Not applicable Indoor use Maximum process temperature Exposed skin surface assumed:	40 °C 1500 cm² two hands and upper wrists
Technical conditions and measures at process level (source) to prevent release  Organisational measures to prevent /limit releases, dispersion and exposure  Conditions and measures related to personal protection, hygiene and health evaluation  .1.2 Contributing scenario controlling worker exposure PROC11 Non industrial spraying  Product characteristics Physical form of product Concentration of substance in product  Operational conditions  Frequency and duration of use Human factors not influenced by risk management Other given operational conditions affecting workers exposure  Risk Management Measures  Technical conditions and measures at process level (source) to prevent release	worker exposure to airborne contaminants  Local exhaust ventilation: no The appropriate type of chemical protective glove/safety glasses has to be selected specially Wear suitable gloves (tested to EN374) and eye protection. Respiratory protection not applicable  (PROC11)  Solution > 25 %  4 hours/ day Not applicable Indoor use Maximum process temperature Exposed skin surface assumed:  Good general ventilation should be sufficient to control worker exposure to airborne contaminants Local exhaust ventilation: no	40 °C 1500 cm² two hands and upper wrists
Technical conditions and measures at process level (source) to prevent release  Organisational measures to prevent /limit releases, dispersion and exposure  Conditions and measures related to personal protection, hygiene and health evaluation  1.2 Contributing scenario controlling worker exposure PROC11 Non industrial spraying  Product characteristics Physical form of product  Concentration of substance in product  Operational conditions  Frequency and duration of use Human factors not influenced by risk management Other given operational conditions affecting workers exposure  Risk Management Measures  Technical conditions and measures at process level (source) to prevent release  Organisational measures to prevent /limit releases, dispersion	worker exposure to airborne contaminants  Local exhaust ventilation: no The appropriate type of chemical protective glove/safety glasses has to be selected specially Wear suitable gloves (tested to EN374) and eye protection. Respiratory protection not applicable  (PROC11)  Solution > 25 %  4 hours/ day Not applicable Indoor use Maximum process temperature Exposed skin surface assumed:  Good general ventilation should be sufficient to control worker exposure to airborne contaminants Local exhaust ventilation: no The appropriate type of chemical protective glove/safety	40 °C 1500 cm² two hands and upper wrists
Technical conditions and measures at process level (source) to prevent release  Organisational measures to prevent /limit releases, dispersion and exposure  Conditions and measures related to personal protection, hygiene and health evaluation  2.1.2 Contributing scenario controlling worker exposure PROC11 Non industrial spraying  Product characteristics Physical form of product Concentration of substance in product  Operational conditions  Frequency and duration of use Human factors not influenced by risk management Other given operational conditions affecting workers exposure  Risk Management Measures  Technical conditions and measures at process level (source) to prevent release  Organisational measures to prevent /limit releases, dispersion and exposure	worker exposure to airborne contaminants  Local exhaust ventilation: no The appropriate type of chemical protective glove/safety glasses has to be selected specially Wear suitable gloves (tested to EN374) and eye protection. Respiratory protection not applicable  (PROC11)  Solution > 25 %  4 hours/ day Not applicable Indoor use Maximum process temperature Exposed skin surface assumed:  Good general ventilation should be sufficient to control worker exposure to airborne contaminants Local exhaust ventilation: no The appropriate type of chemical protective glove/safety glasses has to be selected specially	40 °C 1500 cm² two hands and upper wrists
Technical conditions and measures at process level (source) to prevent release  Organisational measures to prevent /limit releases, dispersion and exposure  Conditions and measures related to personal protection, hygiene and health evaluation  2.1.2 Contributing scenario controlling worker exposure PROC11 Non industrial spraying  Product characteristics Physical form of product  Concentration of substance in product  Operational conditions  Frequency and duration of use Human factors not influenced by risk management  Other given operational conditions affecting workers exposure  Risk Management Measures  Technical conditions and measures at process level (source) to prevent release  Organisational measures to prevent /limit releases, dispersion	worker exposure to airborne contaminants  Local exhaust ventilation: no The appropriate type of chemical protective glove/safety glasses has to be selected specially Wear suitable gloves (tested to EN374) and eye protection. Respiratory protection not applicable  (PROC11)  Solution > 25 %  4 hours/ day Not applicable Indoor use Maximum process temperature Exposed skin surface assumed:  Good general ventilation should be sufficient to control worker exposure to airborne contaminants Local exhaust ventilation: no The appropriate type of chemical protective glove/safety	40 °C 1500 cm² two hands and upper wrists

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2.1.3 Contributing scenario controlling worker exposure (PROCEs) Product characteristics Product chara	Operational conditions and rick manager	ment messures (sentinus)	
Product characteristics			
Physical form of product   > 25 %			at non dedicated facilities
Concentration of substance in product   > 25 %	Product characteristics		
Operational conditions   Frequency and duration of use   A hours' day   Not applicable	,		
Sequency and duration of use   A hours' day   Human factors not influenced by risk management   Not applicable   Exposed skin surface assumed:   40 °C	Concentration of substance in product	> 25 %	
Human factors not influenced by risk management   Not applicable   Maximum process temperature   4.0 °C			
Indoor use   Exposed skin surface assumed:   40 °C   Exposed skin surface assumed:			
Maximum process temperature   40 °C   Exposed skin surface assumed:   960 cm²   two hands			
Risk Management Measures Technical conditions and measures at process level (source) to prevent release Organisational measures to prevent /limit releases, dispersion worker exposure to airborne contaminants Conditions and measures to prevent /limit releases, dispersion worker exposure to airborne contaminants Conditions and measures related to personal protection, hygiene and health evaluation  2.1.4 Contributing scenario controlling worker exposure (PROC8b) PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities  Product characteristics Physical form of product Concentration of substance in product Other given operational conditions affecting workers exposure  Risk Management Measures  Risk Management Measures  Risk Management Measures  Risk Management Measures  Technical conditions and measures at process level (source) workers exposure (source) and workers exposure (source) workers exposure or airborne contaminants  Corporational conditions  Risk Management Measures  Risk Management Measures  Technical conditions and measures at process level (source) workers exposure or airborne contaminants  Corporational conditions and measures at process level (source) workers exposure or airborne contaminants  Corporational conditions and measures at process level (source) workers exposure or airborne contaminants  Corporational conditions and measures at process level (source) workers exposure to airborne contaminants  Corporational conditions and measures related to personal protection, hygiene and health evaluation  Risk Management Measures  Solution  Corporational conditions and risk management measures (continue)  2. Operational conditions and risk management measures (continue)  Risk Management Measures  Frequency and duration of use  Very and the province of the process temperature  Very and the province of the province	Other given operational conditions affecting workers exposure		40 °C
Risk Management Measures Technical conditions and measures at process level (source) to prevent release  Organisational measures to prevent //limit releases, dispersion and exposure Conditions and measures related to personal protection, hygine and health evaluation  Product characteristics Product characteristics Process of incompany and duration of use Human factors not influenced by risk management Organisational measures at process level (source) To prevent releases  Organisational measures related to personal protection, hygine and health evaluation  The appropriate type of chemical protective glove/safety places and the product of the product of the separation (charging/discharging) from/to vessels/large containers at dedicated facilities  Product characteristics  Product charact			
Technical conditions and measures at process level (source) to prevent release  Organisational measures to prevent /limit releases, dispersion and exposure  Conditions and measures related to personal protection, hygiene and health evaluation  Transfer of substance or preparation (characteristics)  Product characteristics  Product characteristics  Product characteristics  Product characteristics  Product characteristics  Product characteristics  Profuse of substance or preparation (characteristics)  Profuse or profuse or programment of substance or preparation (characteristics)  Profuse or profuse or programment or product  Other given operational conditions and measures at process level (source) to prevent release  Conditions and measures to prevent /limit releases, dispersion and exposure (control or substance)  Conditions and measures related to personal protection, hygiene and health evaluation  Technical conditions  Risk Management Measures  Conditions and measures to prevent /limit releases, dispersion and exposure  Conditions and measures related to personal protection, hygiene and health evaluation  Organisational measures related to personal protection, hygiene and health evaluation  Product characteristics  Prosult characteristics  Product characteristics  Prosult characteristics  Product c		Exposed skin surface assumed.	
Technical conditions and measures at process level (source) to prevent release  Organisational measures to prevent /limit releases, dispersion and exposure  Conditions and measures related to personal protection, hygiene and health evaluation  PROCBS  Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities  Product characteristics  Product characteristics  Product characteristics  Profuce and district of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities  Product characteristics  Progrational conditions  Frequency and duration of use  Leaf and product  Assimption of substance or product  Solution  Assimption of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities  Product characteristics  Product characteristics  Product characteristics  Progrational conditions  Frequency and duration of use  Leaf and the vest of the product of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities  Product characteristics  Product and duration of use  Leaf A hours/ day  Not applicable  Indoor use  Assimption product on time containing and time conta	Risk Management Measures		
worker exposure to airborne contaminants   worker exposure to airborne contaminants   Cocal exhaust ventilation: no		Good general ventilation should be sufficient to control	3 air changes/hour
The appropriate type of chemical protective glove/safety and exposure   The appropriate type of chemical protective glove/safety glasses has to be selected specially	to prevent release	worker exposure to airborne contaminants	
and exposure glasses has to be selected specially Conditions and measures related to personal protection, hygiene and health evaluation Respiratory protection not applicable gloves (tested to EN374) and eye protection.  Respiratory protection not applicable  Transfer of substance or preparation (charqing/discharging) from/to vessels/large containers at dedicated facilities  Product characteristics  Product characteristics  Physical form of product Solution  Concentration of substance in product Solution  Operational conditions  Frequency and duration of use 4 hours/ day  Indicor use A hours/ day  Indicor use Maximum process temperature 40 °C  Exposed skin surface assumed: 990 om² two hands  Risk Management Measures  Technical conditions and measures at process level (source) to prevent release Conditions and measures to prevent /limit releases, dispersion and exposure  Conditions and measures related to personal protection, Hygiene and health evaluation  Product characteristics  Product characteristics  Solution  Contributing scenario controlling worker exposure (PROCS)  Transfer of substance or preparation into small containers (dedicated facilities)  Product characteristics			
Conditions and measures related to personal protection, Wear suitable glowes (tested to EN374) and eye protection. Respiratory protection not applicable  2.1.4 Contributing scenario controlling worker exposure (PROC8b)  PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities  Product characteristics  Physical form of product  Concentration of substance in product  Solution  Concentration of substance in product  Other given operational conditions affecting workers exposure  Risk Management Measures  Technical conditions and measures at process level (source) to prevent release  Organisational measures to prevent /limit releases, dispersion and exposure related to personal protection, hygiene and health evaluation  Product characteristics  Product characteristics  Product characteristics  Solution  Contributing scenario controlling workers exposure  Wear suitable glowes (tested to EN374) and eye protection. Septiatory protection not applicable  Local exhaust ventilation should be sufficient to control worker exposure to airborne contaminants. Local exhaust ventilation: no  The appropriate type of chemical protective glove/safety glasses has to be selected specially  Conditions and measures related to personal protection, Respiratory protection not applicable  Product characteristics  Product characteristics  Product characteristics  Product characteristics  Product characteristics  Product characteristics  Previous of the product Solution  Concentration of substance in product Solution  Other given operational conditions affecting workers exposure (PROC9)  Transfer of substance or preparation into small containers (dedicated filling line, including weighing)  Product characteristics  Progrational conditions  Exposed skin surface assumed: 40 °C			
2.1.4 Contributing scenario controlling worker exposure (PROC8b)  PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities  Product characteristics  Physical form of product Solution  Concentration of substance in product > 25 %  Operational conditions  Frequency and duration of uses	Conditions and measures related to personal protection,	Wear suitable gloves (tested to EN374) and eye protection.	
PROC8b Transfer of substance or preparation (charging/discharging) from/lo vessels/large containers at dedicated facilities  Product characteristics Physical form of product Solution Concentration of substance in product > 25 %  Operational conditions Frequency and duration of use   4 hours/ day   Human factors not influenced by risk management   Not applicable   Indoor use   Indoor use   Maximum process temperature   40 °C   Exposed skin surface assumed:   960 cm²   two hands  Risk Management Measures  Technical conditions and measures at process level (source) to prevent release   Good general ventilation: no   Torganisational measures to prevent //limit releases, dispersion and exposure   Good general ventilation: no   Conditions and measures related to personal protection, hygiene and health evaluation   Respiratory protection not applicable   PROC9   Transfer of substance or preparation into small containers (dedicated filling line, including weighing)  Product characteristics Physical form of product   Solution   Concentration of substance in product   > 25 %  Operational conditions affecting worker exposure   Conditions on tintuenced by risk management   Concentration of substance in product   > 25 %  Operational conditions   Concentration of substance in product   > 25 %  Operational conditions   Concentration of substance in product   > 25 %  Operational conditions affecting worker exposure   Concentration of substance in product   > 25 %  Operational conditions affecting worker exposure   Concentration of substance in product   > 25 %  Operational conditions affecting workers exposure   Concentration of substance in product   > 25 %  Operational conditions affecting workers exposure   Concentration of substance in product   > 25 %  Operational conditions affecting workers exposure   Concentration of substance in product   > 25 %  Operational conditions affecting workers exposure   Concentration of substance in product   > 25 %  Operational conditions affecting workers exposure   Conditions   Concentra	hygiene and health evaluation	Respiratory protection not applicable	
Product characteristics Physical form of product Concentration of substance in product Solution Operational conditions Frequency and duration of use Human factors not influenced by risk management Other given operational conditions affecting workers exposure    Maximum process temperature   40 °C			
Physical form of product Concentration of substance in product Solution Concentration of substance in product Solution Concentration of substance in product Solution  Concentration of substance in product  Concentration of substance in product  Concentration of substance in product Solution Concentration of substance in product Concertain o	PROC8b Transfer of substance or preparation	aration (charging/discharging) from/to vessels/large containers a	at dedicated facilities
Section   Substance in product   Section   S			
Operational conditions   Frequency and duration of use   < 4 hours/ day   Not applicable   Indoor use   Maximum process temperature   40 °C   Exposed skin surface assumed:   960 cm²   two hands   Worker exposure to prevent release   Good general ventilation should be sufficient to control worker exposure to prevent release   Good general ventilation should be sufficient to control worker exposure to airborne contaminants   Local exhaust ventilation: no   The appropriate type of chemical protective glove/safety   glasses has to be selected specially   Wear suitable gloves (tested to EN374) and eye protection.   Respiratory protection not applicable			
Frequency and duration of use	Concentration of substance in product	> 25 %	
Human factors not influenced by risk management   Other given operational conditions affecting workers exposure   Indoor use   Maximum process temperature   40 °C   Exposed skin surface assumed:   960 cm² two hands	Operational conditions		
Indoor use		< 4 hours/ day	
Maximum process temperature 40 °C Exposed skin surface assumed: 960 cm² two hands  Risk Management Measures  Technical conditions and measures at process level (source) to prevent release  Organisational measures to prevent /limit releases, dispersion and exposure Conditions and measures related to personal protection, hygiene and health evaluation  PROC9  PROC9  Transfer of substance or preparation into small containers (dedicated filling line, including weighing)  Product characteristics  Physical form of product Concentration of substance in product Concentration of substance in product Concentration of use Human factors not influenced by risk management Maximum process temperature  40 °C Exposed skin surface assumed:  960 cm² two hands  3 air changes/hour worker exposure to airborne contaminants Local exhaust ventilation: no  The appropriate type of chemical protective glove/safety glasses has to be selected specially Wear suitable gloves (fested to EN374) and eye protection. Respiratory protection not applicable  2. Operational conditions and risk management measures (continue)  2. Operational conditions senario controlling worker exposure (PROC9)  PROC9  Transfer of substance or preparation into small containers (dedicated filling line, including weighing)  Product characteristics  Physical form of product Solution Concentration of substance in product  > 25 %  Operational conditions  Frequency and duration of use Human factors not influenced by risk management Not applicable Indoor use  Maximum process temperature Exposed skin surface assumed: 40 °C Exposed skin surface assumed: 40 °C Exposed skin surface assumed:			
Risk Management Measures Technical conditions and measures at process level (source) to prevent release by the prevent release of the prevent releases, dispersion and exposure of the prevent releases	Other given operational conditions affecting workers exposure		
Risk Management Measures  Technical conditions and measures at process level (source) to prevent release  Organisational measures to prevent // limit releases, dispersion and exposure  Conditions and measures related to personal protection, hygiene and health evaluation  Product characteristics  Physical form of product  Concentration of substance in product  Operational conditions  Product characteristics  Physical form of product  Concentration of substance in product  Operational conditions  Prequency and duration of use  Human factors not influenced by risk management  Other given operational conditions affecting workers exposure  Maximum process temperature  Good general ventilation: should be sufficient to control  3 air changes/hour  Worker exposure to airborne contaminants  Local exhaust ventilation: no  The appropriate type of chemical protective glove/safety glasses has to be selected specially  Wear suitable gloves (tested to EN374) and eye protection.  Respiratory protection not applicable  Product characteristics  Physical form of product  Solution  Concentration of substance in product  > 25 %  Operational conditions  Frequency and duration of use    Valuation of use			
Risk Management Measures Technical conditions and measures at process level (source) to prevent release  Organisational measures to prevent /limit releases, dispersion and exposure Conditions and measures related to personal protection, hygiene and health evaluation  PROC9 Transfer of substance or preparation into small containers (dedicated filling line, including weighing)  Product characteristics Physical form of product Concentration of substance in product Concentration of substance in product Concentration of substance in product Concentration of substance or preparation into small containers (device filling line, including weighing)  Operational conditions Frequency and duration of use Human factors not influenced by risk management Other given operational conditions affecting workers exposure Exposed skin surface assumed:  Ogod general ventilation should be sufficient to control worker exposure to airborne contaminants Local exhaust ventilation: no  Worker exposure to airborne contaminants Local exhaust ventilation: no  Wear suitable gloves (tested to EN374) and eye protection. Respiratory protection not applicable  Incorrection not applicable  Solution  Solution  Concentration of substance in product  Solution  Other given operational conditions affecting workers exposure  Maximum process temperature  Au °C Exposed skin surface assumed:  40 °C Exposed skin surface assumed:		Exposed skin surface assumed:	
Technical conditions and measures at process level (source) to prevent release    Good general ventilation should be sufficient to control worker exposure to airborne contaminants	P. I. M.	,	
to prevent release  Worker exposure to airborne contaminants Local exhaust ventilation: no The appropriate type of chemical protective glove/safety glasses has to be selected specially  Wear suitable gloves (tested to EN374) and eye protection. Respiratory protection not applicable  2. Operational conditions and risk management measures (continue)  2.1.5 Contributing scenario controlling worker exposure (PROC9) PROC9 Transfer of substance or preparation into small containers (dedicated filling line, including weighing)  Product characteristics Physical form of product Concentration of substance in product  Concentration of substance i		Cood general ventilation should be sufficient to central	2 air abangas/baur
Organisational measures to prevent /limit releases, dispersion and exposure  Conditions and measures related to personal protection, hygiene and health evaluation  PROC9  PROC9  Transfer of substance or preparation into small containers (dedicated filling line, including weighing)  Product characteristics  Physical form of product  Concentration of substance in product  Concentration of substance in product  Solution  Frequency and duration of use  Human factors not influenced by risk management  Other given operational conditions affecting workers exposure  Maximum process temperature  Label of the management product substance or preparation into small containers (dedicated filling line, including weighing)  A hours/ day  Not applicable  Maximum process temperature  Maximum process temperature  Exposed skin surface assumed:  40 °C  Exposed skin surface assumed:  A sultance of chemical protective glove/safety glasses has to be selected specially  Wear suitable gloves (tested to EN374) and eye protection.  Respiratory protection not applicable  Not applicable  Not applicable  Maximum process temperature  40 °C  Exposed skin surface assumed:  480 cm²	• • • • • • • • • • • • • • • • • • • •	worker exposure to airborne contaminants	3 all Changes/noul
and exposure Conditions and measures related to personal protection, hygiene and health evaluation  2. Operational conditions and risk management measures (continue)  2.1.5 Contributing scenario controlling worker exposure (PROC9) PROC9 Transfer of substance or preparation into small containers (dedicated filling line, including weighing)  Product characteristics Physical form of product Concentration of substance in product Concentration of substance in product  Operational conditions Frequency and duration of use Human factors not influenced by risk management Other given operational conditions affecting workers exposure Maximum process temperature Exposed skin surface assumed:  40 °C Exposed skin surface assumed:	Organizational management to property files it as leaves all.		<u> </u>
A poperational conditions and risk management measures (continue)  2.1.5 Contributing scenario controlling worker exposure (PROC9)  PROC9 Transfer of substance or preparation into small containers (dedicated filling line, including weighing)  Product characteristics Physical form of product Concentration of substance in product  Concentration of substance in product  Operational conditions  Frequency and duration of use Human factors not influenced by risk management Other given operational conditions affecting workers exposure  Maximum process temperature Exposed skin surface assumed:  40 °C Exposed skin surface assumed:			
2. Operational conditions and risk management measures (continue)  2.1.5 Contributing scenario controlling worker exposure (PROC9)  PROC9 Transfer of substance or preparation into small containers (dedicated filling line, including weighing)  Product characteristics  Physical form of product Solution  Concentration of substance in product > 25 %  Operational conditions  Frequency and duration of use	· · · · · · · · · · · · · · · · · · ·		
2.1.5 Contributing scenario controlling worker exposure (PROC9)  PROC9 Transfer of substance or preparation into small containers (dedicated filling line, including weighing)  Product characteristics Physical form of product Solution Concentration of substance in product > 25 %  Operational conditions  Frequency and duration of use < 4 hours/ day	nyglene and nealth evaluation	Respiratory protection not applicable	
2.1.5 Contributing scenario controlling worker exposure (PROC9)  PROC9 Transfer of substance or preparation into small containers (dedicated filling line, including weighing)  Product characteristics  Physical form of product Solution  Concentration of substance in product > 25 %  Operational conditions  Frequency and duration of use < 4 hours/ day	2 Operational conditions and risk manager	ment measures (continue)	
Product characteristics Physical form of product Concentration of substance in product  Operational conditions Frequency and duration of use Human factors not influenced by risk management Other given operational conditions affecting workers exposure Maximum process temperature Exposed skin surface assumed:  A ledicated filling line, including weighing)  Solution  Concentration of substance in product  > 25 %  A hours/ day Indoor use Maximum process temperature 40 °C Exposed skin surface assumed:  480 cm²	2.1.5 Contributing scenario controlling worker exposure	(PROC9)	
Physical form of product  Concentration of substance in product  > 25 %   Operational conditions  Frequency and duration of use  Human factors not influenced by risk management Other given operational conditions affecting workers exposure  Maximum process temperature Exposed skin surface assumed:  Solution  > 25 %  Operational conditions  Frequency and duration of use    Not applicable			ghing)
Concentration of substance in product > 25 %  Operational conditions  Frequency and duration of use	Product characteristics		
Operational conditions  Frequency and duration of use	,		
Frequency and duration of use < 4 hours/ day  Human factors not influenced by risk management Not applicable  Other given operational conditions affecting workers exposure Indoor use  Maximum process temperature 40 °C  Exposed skin surface assumed: 480 cm²	Concentration of substance in product	> 25 %	
Frequency and duration of use < 4 hours/ day  Human factors not influenced by risk management Not applicable  Other given operational conditions affecting workers exposure Indoor use  Maximum process temperature 40 °C  Exposed skin surface assumed: 480 cm²	Operational conditions		
Human factors not influenced by risk management Other given operational conditions affecting workers exposure  Maximum process temperature  Maximum process temperature  40 °C  Exposed skin surface assumed:  480 cm²		< 4 hours/ day	
Other given operational conditions affecting workers exposure    Indoor use   Maximum process temperature   40 °C		Not applicable	
Maximum process temperature 40 °C Exposed skin surface assumed: 480 cm²			
Exposed skin surface assumed: 480 cm <sup>2</sup>			40 °C
two hands face			
			two hands face
Risk Management Measures	Risk Management Measures		
Technical conditions and measures at process level (source)  Good general ventilation should be sufficient to control  3 air changes/hour		Good general ventilation should be sufficient to control	3 air changes/hour
to prevent release worker exposure to airborne contaminants		worker exposure to airborne contaminants	
Local exhaust ventilation: no  Organisational measures to prevent /limit releases, dispersion  The appropriate type of chemical protective glove/safety	Organisational measures to prevent /limit releases, dispersion		+
Organisational measures to prevent /limit releases, dispersion and exposure  The appropriate type of chemical protective glove/safety glasses has to be selected specially	•		
Conditions and measures related to personal protection,  Wear suitable gloves (tested to EN374) and eye protection.			<u> </u>
hygiene and health evaluation Respiratory protection not applicable			



# 3. Exposure estimation and reference to its source 3.1. Health

Long-term - systemic effects						
DNEL Inhalation: 41,2 mg/m³ Dermal: 59 mg/kg bodyweight/day						
Contributing Scenario	inhalation exposure mg/m³	RCR	dermal exposure mg/kg bodyweight/day	RCR	Sum RCR	Assessment method Inhalation: Used ECETOC TRA model Dermal: Used ECETOC TRA model
PROC5	0,3	0,007	2,742	0,046	0,053	
PROC11	30,02	0,729	10,71	0,182	0,911	
PROC8a	0,3	0,01	2,742	0,046	0,056	
PROC8b	0,3	0,007	2,742	0,046	0,053	
PROC9	0.3	0.007	1.372	0.023	0.030	

#### 3.2. **Environment**

Environmental exposure	Unit	Exposure estimation	PNEC	RCR	Assessment method
Freshwater	mg/l	0,01	0,137	0,073	Used ECETOC TRA model
Marine water	mg/l	0,001	0,0137	0,073	Used ECETOC TRA model
Freshwater sediment	mg/kg dwt	0,038	0,117	0,325	Used ECETOC TRA model
Marine water sediment	mg/kg dwt	0,004	0,0117	0,342	Used ECETOC TRA model
Sewage treatment plant	mg/l	0,055	100	0,001	Used ECETOC TRA model
Soil	mg/kg dwt	0,0007954	1	0,001	Used ECETOC TRA model

## 4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the ES

4.1. Health	
Guidance - Health	Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational
	Conditions outlined in section 2 are implemented. Where other Risk Management Measures/Operational Conditions are
	adopted, then users should ensure that risks are managed to at least equivalent levels

4.2. Environment	
Guidance - Environment	If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required

Revision date:26-4-2017 Version: 1.1



Professional use of potassium phosphite as fertilizer	(outdoor)	ES Ref: KH2PO3 9.4	
i roressional use or potassium phosphite as fertilizer	(Galagor)	ES Type: Worker	
		Version: 1	
		Revision date: 04-07-2013	
Jse descriptors	PROC5. PROC8a	PROC8b, PROC9, PROC11	
<del></del>	SU1		
Processes, tasks, activities covered	ERC8d Professional use		
Assessment method	Used ECETOC TR	A model	
. Operational conditions and risk mar	nagement me	asures	
2 Contributing scenario controlling environme ERC8d Wide dispersive outdo			
Assessment method Used ECETOC TRA m		g alus in open systems	
Product characteristics	Liquid		
Physical form of product Concentration of substance in product	Liquid 50 %		
•	1 27 /2		
Operational conditions	D-9	unt for wide dispersive us	0.000075 tons/-
Amounts used		unt for wide dispersive uses f Regional tonnage used locally:	0,000275 tonnes/day
Frequency and duration of use	Daily wide	dispersive use	
Environmental factors not influenced by risk managemen	t Receiving	surface water flow	18000 m³/d
Other given operational conditions affecting environmental exposure	al Indoor use		
exposure Frequency and duration of use	Percentag	e of tonnage used at regional scale	10 %
Other given operational conditions affecting workers expo			10 70
Diele Management Manager			
Risk Management Measures Technical conditions and measures at process level (sou	rce) Discharge	to aquatic environment is restricted (see Section	T
to prevent release		ot allow uncontrolled discharge of product into the	
Technical onsite conditions and measures to reduce or lin		vaste in accordance with local and/or national	
discharges, air emissions and releases to soil Organisation measures to prevent/limit release from site	regulations Prevent er	s nvironmental discharge consistent with regulatory	
organication measures to provent min release from ene	requireme	nts	
Conditions and measures related to municipal sewage	Municipal	STP: Yes	0,013 %
treatment plant	Discharge	rate of STP	Effectiveness water > 2000 m³/d
		n of STP sludge to agricultural soil: Yes	> 2000 III-7u
Operational conditions and risk man  Contributing scenario controlling worker ex  ROC5 Mixing or blending in b	posure (PROC5)	casures (continue)	and/or significant contact)
Product characteristics			
Physical form of product	Solution		
Concentration of substance in product	> 25 %		
Operational conditions			
Frequency and duration of use	< 4 hours/		
Human factors not influenced by risk management Other given operational conditions affecting workers expo	Not applicationsure Outdoor	able	
Taring and a positional contained an ording workers expe		process temperature	40 °C
		skin surface assumed:	480 cm <sup>2</sup>
			two hands face
Risk Management Measures			
Fechnical conditions and measures at process level (sou o prevent release		eral ventilation should be sufficient to control posure to airborne contaminants	
o prevent release Organisational measures to prevent /limit releases, dispe		posure to airborne contaminants priate type of chemical protective glove/safety	
and exposure	glasses ha	as to be selected specially	
Conditions and measures related to personal protection,		able gloves (tested to EN374) and eye protection.  ry protection not applicable	
hygiene and health evaluation	i Kespiiatoi	v projection not applicable	i

Contributing scenario controlling worker exposure (PROC11) PROC11 Non industrial spraying

Product characteristics	
Physical form of product	Solution
Concentration of substance in product	> 25 %



Operationa	l conditions
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Frequency and duration of use	< 4 hours/ day	
Human factors not influenced by risk management	Not applicable	
Other given operational conditions affecting workers exposure	outdoor	
	Maximum process temperature	40 °C
	Exposed skin surface assumed:	1500 cm <sup>2</sup>
		two hands and upper wrists

### Risk Management Measures

	Nisk management measures		
Technical conditions and measures at process level (source)		Good general ventilation should be sufficient to control	
	to prevent release	worker exposure to airborne contaminants	
	Organisational measures to prevent /limit releases, dispersion	The appropriate type of chemical protective glove/safety	
	and exposure	glasses has to be selected specially	
	Conditions and measures related to personal protection,	Wear suitable gloves (tested to EN374) and eye protection	
	hygiene and health evaluation	Wear a respirator conforming to EN140 with Type A/P2	APF = 10, Effect 90%
		filter or better	

## 2. Operational conditions and risk management measures (continue)

## Contributing scenario controlling worker exposure (PROC8a)

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

## **Product characteristics**

Physical form of product	Solution	
Concentration of substance in product	> 25 %	

## Operational conditions

Frequency and duration of use	< 4 hours/ day	
Human factors not influenced by risk management	Not applicable	
Other given operational conditions affecting workers exposure	outdoor	
	Maximum process temperature	40 °C
	Exposed skin surface assumed:	960 cm <sup>2</sup>
		two hands

## **Risk Management Measures**

Technical conditions and measures at process level (source)	Good general ventilation should be sufficient to control	
to prevent release	worker exposure to airborne contaminants	
Organisational measures to prevent /limit releases, dispersion and exposure	The appropriate type of chemical protective glove/safety glasses has to be selected specially	
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves (tested to EN374) and eye protection. Respiratory protection not applicable	

### **2.1.4** PROC8b Contributing scenario controlling worker exposure (PROC8b)

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

### Product characteristics

Physical form of product	Solution
Concentration of substance in product	> 25 %

### Operational conditions

Frequency and duration of use	< 4 hours/ day	
Human factors not influenced by risk management	Not applicable	
Other given operational conditions affecting workers exposure	outdoor	
	Maximum process temperature	40 °C
	Exposed skin surface assumed:	960 cm <sup>2</sup>
		two hands

## Risk Management Measures

	Technical conditions and measures at process level (source)	Good general ventilation should be sufficient to control	
L	to prevent release	worker exposure to airborne contaminants	
	Organisational measures to prevent /limit releases, dispersion	The appropriate type of chemical protective glove/safety	
L	and exposure	glasses has to be selected specially	
	Conditions and measures related to personal protection,	Wear suitable gloves (tested to EN374) and eye protection.	
L	hygiene and health evaluation	Respiratory protection not applicable	

# 2. Operational conditions and risk management measures (continue) 2.1.5 Contributing scenario controlling worker exposure (PROC9)

PROC9 Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
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Product characteristics		
Physical form of product	Solution	
Concentration of substance in product	> 25 %	
Vapour pressure	0 hPa	

## Operational conditions

Version: 1.1

Frequency and duration of use	< 4 hours/ day	



Human factors not influenced by risk management	Not applicable	
Other given operational conditions affecting workers exposure	Outdoor	
	Maximum process temperature	40 °C
	Exposed skin surface assumed:	480 cm <sup>2</sup>
		two hands face

**Risk Management Measures** 

Technical conditions and measures at process level (source)	Good general ventilation should be sufficient to control	
to prevent release	worker exposure to airborne contaminants	
Organisational measures to prevent /limit releases, dispersion	The appropriate type of chemical protective glove/safety	
and exposure	glasses has to be selected specially	
Conditions and measures related to personal protection,	Wear suitable gloves (tested to EN374) and eye protection.	
hygiene and health evaluation	Respiratory protection not applicable	

## 3. Exposure estimation and reference to its source

Long-term - systemic effect						
DNEL	Inhalation: 41,2 mg/m³ Dermal: 59 mg/kg body	weight/day				
Contributing Scenario	inhalation exposure mg/m³	RCR	dermal exposure mg/kg bodyweight/day	RCR	Sum RCR	Assessment method Inhalation: Used ECETOC TRA model Dermal: Used ECETOC TRA model
PROC5	0,21	0,005	2,742	0,046	0,051	
PROC11	21,01	0,510	21,43	0,363	0,873	
PROC8a	0,21	0,005	2,742	0,046	0,051	
PROC8b	0,21	0,005	2,742	0,046	0,051	
PROC9	0,21	0,005	1,372	0,023	0,028	

#### 3.2. Environment

Environmental exposure	Unit	Exposure estimation	PNEC	RCR	Assessment method
Freshwater	mg/l	0,018	0,137	0,131	Used ECETOC TRA model
Marine water	mg/l	0,002	0,0137	0,146	Used ECETOC TRA model
Freshwater sediment	mg/kg dwt	0,068	0,117	0,581	Used ECETOC TRA model
Marine water sediment	mg/kg dwt	0,007	0,0117	0,598	Used ECETOC TRA model
Sewage treatment plant	mg/l	0,138	100	0,01	Used ECETOC TRA model
Soil	mg/kg dwt	0,00833	1	0,01	Used ECETOC TRA model

## 4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the ES

	·
4.1. Health	
Guidance - Health	Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational
	Conditions outlined in section 2 are implemented. Where other Risk Management Measures/Operational Conditions are
	adopted, then users should ensure that risks are managed to at least equivalent levels

4.2.	Environment	
Guida	ance - Environment	If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety
1		assessment is required

## 1. Exposure scenario KH2PO3 9.5

Consumer use of potassium phosphite (indoor) ES Ref: KH2PO3 9.5 ES Type: Consumer Version: 1 Revision date: 04-07-2013

Use descriptors	PC12 ERC8a
Processes, tasks, activities covered	Consumer use
Assessment method	Used ECETOC TRA model

# 2. Operational conditions and risk management measures 2.1 Contributing scenario consumer end-use

### Contributing scenario consumer end-use

## Product characteristics

Physical form of product	Mixture
Concentration of substance in product	0,5 g/g
	-1- 3-3

### Operational conditions

_			
Г	Human factors not influenced by risk management	Not applicable	
			,

### **Risk Management Measures**

Safety Data Sheet
According to REACH Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 with amendments



## Potassium Phosphite 50% Liquid

Conditions and measures related to information and behavioural advice to consumers	This material and its container must be disposed of in a safe way, and as per local legislation	
Conditions and measures related to personal protection, hygiene and health evaluation	Goggles	

Contributing scenario controlling environmental exposure ent method Used ECETOC TRA model

Assessment method

Product characteristics

Physical form of product Solution

**Operational conditions** 

operational conditions		
Amounts used	Daily amount for wide dispersive uses	0,00275 tonnes/day
	Fraction of Regional tonnage used locally:	10 %
Environmental factors not influenced by risk management	Receiving surface water flow	> 18000 m³/d
Other given operational conditions affecting environmental	Indoor use	
exposure		

**Risk Management Measures** 

Conditions and measures related to municipal sewage	Municipal STP: Yes	0,013 %
treatment plant		Effectiveness water
	Discharge rate of STP	> 2000 m³/d
	Application of STP sludge to agricultural soil: Yes	

## 3. Exposure estimation and reference to its source

DNEL	Inhalation: 10 Dermal: 29 m Oral: 2,9 mg/	ig/kg bodyv						
Contributing Scenario	inhalation exposure mg/m³	RCR	dermal exposure mg/kg bodyweight/day	RCR	oral exposure mg/kg bodyweight/day	RCR	Sum RCR	Assessment method
	0	0	7,146	0,246	0,15	0,052	0,298	Inhalation: Used ECETOC TRA model Dermal: Used ECETOC TRA model Oral: Used ECETOC TRA model

#### 3.2. Environment

Environmental exposure	Unit	Exposure estimation	PNEC	RCR	Assessment method
Freshwater	mg/l	0,005	0,137	0,036	Used ECETOC TRA model
Marine water	mg/l	0,00474	0,0137	0,346	Used ECETOC TRA model
Freshwater sediment	mg/kg dwt	0,018	0,117	0,154	Used ECETOC TRA model
Marine water sediment	mg/kg dwt	0,002	0,0117	0,171	Used ECETOC TRA model
Sewage treatment plant	mg/l	0,001	100	0,000	Used ECETOC TRA model
Soil	mg/kg dwt	0,0007705	1	0,001	Used ECETOC TRA model

## 4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the ES

4.1. Health	
Guidance - Health	Ensure correct labeling of the product. Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in section 2 are implemented
4.2. Environment	
Guidance - Environment	No additional risk management measures required

## 1. Exposure scenario KH2PO3 9.6

ES Ref: KH2PO3 9.6 Consumer use of potassium phosphite (outdoor)

ES Type: Consumer	
Version: 1	
Revision date: 04-07-2013	

Use descriptors	PC12
	ERC8d
Processes, tasks, activities covered	Consumer use
Assessment method	Used ECETOC TRA model

2. Operational conditions and risk management measures



0,0000275 tonnes/day

10 %

18000 m<sup>3</sup>/d

## Potassium Phosphite 50% Liquid

Product characteristics  Physical form of product Concentration of substance in product O,5 g/g  Operational conditions Human factors not influenced by risk management Not applicable  Risk Management Measures Conditions and measures related to information and behavioural advice to consumers Conditions and measures related to personal protection, hygiene and health evaluation  7.2 Contributing scenario controlling environmental exposure (ERC8d)  PC12 Fertilizers ERC8d Wide dispersive outdoor use of processing aids in open systems	2.1 Contributing scenario consumer end-use	(PC12)
Physical form of product Concentration of substance in product O,5 g/g  Operational conditions Human factors not influenced by risk management Not applicable  Risk Management Measures Conditions and measures related to information and behavioural advice to consumers Conditions and measures related to personal protection, hygiene and health evaluation  Contributing scenario controlling environmental exposure (ERC8d)  PC12  Mixture  Not applicable  Not applicable  Not applicable  This material and its container must be disposed of in a safe way, and as per local legislation  Goggles  PC12  Fertilizers	PC12 Fertilizers	
Physical form of product Concentration of substance in product O,5 g/g  Operational conditions Human factors not influenced by risk management Not applicable  Risk Management Measures Conditions and measures related to information and behavioural advice to consumers Conditions and measures related to personal protection, hygiene and health evaluation  Contributing scenario controlling environmental exposure (ERC8d)  PC12  Mixture  Not applicable  Not applicable  Not applicable  This material and its container must be disposed of in a safe way, and as per local legislation  Goggles  PC12  Fertilizers		
Concentration of substance in product 0,5 g/g  Operational conditions  Human factors not influenced by risk management Not applicable  Risk Management Measures  Conditions and measures related to information and behavioural advice to consumers way, and as per local legislation  Conditions and measures related to personal protection, hygiene and health evaluation  Contributing scenario controlling environmental exposure (ERC8d)  PC12  Fertilizers		
Operational conditions Human factors not influenced by risk management Not applicable  Risk Management Measures Conditions and measures related to information and behavioural advice to consumers way, and as per local legislation Conditions and measures related to personal protection, hygiene and health evaluation  Contributing scenario controlling environmental exposure (ERC8d)  PC12 Fertilizers		Mixture
Risk Management Measures  Conditions and measures related to information and behavioural advice to consumers  Conditions and measures related to personal protection, hygiene and health evaluation  Contributing scenario controlling environmental exposure (ERC8d)  PC12  Not applicable  Not applicable  Not applicable  Not applicable  Vay, and its container must be disposed of in a safe way, and as per local legislation  Goggles  PC12  Contributing scenario controlling environmental exposure (ERC8d)	Concentration of substance in product	0,5 g/g
Risk Management Measures  Conditions and measures related to information and behavioural advice to consumers way, and as per local legislation  Conditions and measures related to personal protection, hygiene and health evaluation  Contributing scenario controlling environmental exposure (ERC8d)  PC12  Fertilizers	Operational conditions	
Risk Management Measures  Conditions and measures related to information and behavioural advice to consumers way, and as per local legislation  Conditions and measures related to personal protection, hygiene and health evaluation  Contributing scenario controlling environmental exposure (ERC8d)  PC12  Fertilizers	Human factors not influenced by risk management	Not applicable
behavioural advice to consumers way, and as per local legislation  Conditions and measures related to personal protection, hygiene and health evaluation  Contributing scenario controlling environmental exposure (ERC8d)  PC12 Fertilizers		
Conditions and measures related to personal protection, hygiene and health evaluation  2.2 Contributing scenario controlling environmental exposure (ERC8d)  PC12 Fertilizers	Conditions and measures related to information and	This material and its container must be disposed of in a safe
hygiene and health evaluation  2.2 Contributing scenario controlling environmental exposure (ERC8d)  PC12 Fertilizers	behavioural advice to consumers	way, and as per local legislation
2.2 Contributing scenario controlling environmental exposure (ERC8d)  PC12 Fertilizers		n, Goggles
PC12 Fertilizers	hygiene and health evaluation	
	2.2 Contributing scenario controlling environ	mental exposure (ERC8d)
ERC8d Wide dispersive outdoor use of processing aids in open systems	PC12 Fertilizers	
	ERC8d Wide dispersive out	door use of processing aids in open systems
Assessment method Used ECETOC TRA model	Assessment method Used ECETOC TRA	n model
Product characteristics		
Physical form of product Mixture		Mixture
Concentration of substance in product 0,5 g/g	Concentration of substance in product	0,5 g/g

Environmental factors not influenced by risk management Other given operational conditions affecting environmental exposure

**Operational conditions** Amounts used

Risk Management Measures		
Conditions and measures related to municipal sewage	Municipal STP: Yes	
treatment plant	Discharge rate of STP	> 2000 m³/d
	Application of STP sludge to agricultural soil: Yes	

Outdoor use

Daily amount for wide dispersive uses

Fraction of Regional tonnage used locally
Receiving surface water flow

# 3. Exposure estimation and reference to its source 3.1. Health

Long-term - systemic effects								
DNEL	Inhalation: 10,2 mg/m³ Dermal: 29 mg/kg bodyweight/day Oral: 2,9 mg/kg bodyweight/day							
Contributing Scenario	inhalation exposure mg/m³	RCR	dermal exposure mg/kg bodyweight/day	RCR	oral exposure mg/kg bodyweight/day	RCR	Sum RCR	Assessment method
PC12	0	0	7,146	0,246	0,15	0,052	0,298	Inhalation: Used ECETOC TRA model Dermal: Used ECETOC TRA model Oral: Used ECETOC TRA model

#### 3.2. Environment

Environmental exposure	Unit	Exposure estimation	PNEC	RCR	Assessment method
Freshwater	mg/l	0,005	0,137	0,036	Used ECETOC TRA model
Marine water	mg/l	0,00474	0,0137	0,346	Used ECETOC TRA model
Freshwater sediment	mg/kg dwt	0,018	0,117	0,154	Used ECETOC TRA model
Marine water sediment	mg/kg dwt	0,002	0,0117	0,171	Used ECETOC TRA model
Sewage treatment plant	mg/l	0,001	100	0,000	Used ECETOC TRA model
Soil	mg/kg dwt	0,0007705	1	0,001	Used ECETOC TRA model

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the ES					
.1. Health					
Guidance - Health	Ensure correct labeling of the product. Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in section 2 are implemented				
.2. Environment					
Guidance - Environment	No additional risk management measures required				



1. Exposure scenario KH2PO3 9.7							
· · ·							
Industrial use as intermediate		ES Ref: KH2PO3 9.7					
		ES Type: Worker Version: 1					
		Revision date: 04-07-2013					
se descriptors PROC1, PROC2, PROC3, PROC4, PROC8a, PROC9, PROC9, PROC15							
Use descriptors	SU9	OC3, PROC4, PROC8a, PROC8b, PROC9, PRO	C15				
	ERC6a						
Processes, tasks, activities covered	Industrial use						
Assessment method	Used ECETOC TRA	model					
2. Operational conditions and risk ma	nagement mea	sures					
2.2 Contributing scenario controlling environm							
		other substance (use of intermediates)					
Assessment method Used ECETOC TRA r	nodel						
Product characteristics							
Physical form of product	Solution						
Operational conditions							
Amounts used	Maximum da	aily site tonnage (tonnes/day):	<= 10				
	Annual site t	tonnage (tonnes/year):	<= 200				
For the ground of facts and the state of the		Regional tonnage used locally:	100 %				
Environmental factors not influenced by risk managemen	it   Receiving si	urface water flow					
Risk Management Measures							
Technical onsite conditions and measures to reduce or li		ste in accordance with local and/or national					
discharges, air emissions and releases to soil  Organisation measures to prevent/limit release from site	regulations Prevent env	ironmental discharge consistent with regulatory					
Organisation measures to preventilinit release from site	requirement						
Conditions and measures related to municipal sewage	Municipal S	TP: Yes					
treatment plant	Discharge ra		> 2000 m³/d				
Conditions and measures related to external treatment o	Application of External tree	of STP sludge to agricultural soil: Yes atment and disposal of waste should comply with					
waste for disposal		ocal and/or national regulations					
Conditions and measures related to external recovery of		overy and recycling of waste should comply with					
	applicable lo	ocal and/or national regulations					
2. Operational conditions and risk ma		sures (continue)					
2.1.1 Contributing scenario controlling worker ex	<b>xposure (PROC1)</b> s, no likelihood of expo	Curo					
PROCT Use in closed process	, no likelihood of expo-	suie					
Product characteristics							
	Colution						
Physical form of product	Solution						
Physical form of product  Operational conditions	Solution						
	Covers daily	exposures up to 8 hours (unless stated					
Operational conditions Frequency and duration of use	Covers daily differently)	exposures up to 8 hours (unless stated					
Operational conditions	Covers daily differently) osure Indoor use		40 °C				
Operational conditions Frequency and duration of use	Covers daily differently) osure Indoor use Maximum pi	r exposures up to 8 hours (unless stated rocess temperature n surface assumed:	40 °C 240 cm <sup>2</sup>				
Operational conditions Frequency and duration of use	Covers daily differently) osure Indoor use Maximum pi	rocess temperature					
Operational conditions Frequency and duration of use Other given operational conditions affecting workers exp	Covers daily differently) osure Indoor use Maximum pi	rocess temperature	240 cm²				
Operational conditions Frequency and duration of use	Covers daily differently) Indoor use Maximum pr Exposed ski	rocess temperature n surface assumed: al ventilation should be sufficient to control	240 cm²				
Operational conditions Frequency and duration of use Other given operational conditions affecting workers exp Risk Management Measures	Covers daily differently) Indoor use Maximum pr Exposed ski  urce) Good generworker expo	rocess temperature n surface assumed:  al ventilation should be sufficient to control sure to airborne contaminants	240 cm <sup>2</sup> one hand face only				
Operational conditions  Frequency and duration of use  Other given operational conditions affecting workers exp  Risk Management Measures  Technical conditions and measures at process level (sout to prevent release	Covers daily differently) osure Indoor use Maximum pr Exposed ski  urce) Good generworker expo	rocess temperature n surface assumed:  al ventilation should be sufficient to control sure to airborne contaminants st ventilation: no	240 cm <sup>2</sup> one hand face only				
Operational conditions Frequency and duration of use Other given operational conditions affecting workers exp  Risk Management Measures Technical conditions and measures at process level (soc	Covers daily differently) osure Indoor use Maximum pr Exposed ski  urce) Good generworker expo	rocess temperature n surface assumed:  al ventilation should be sufficient to control sure to airborne contaminants	240 cm² one hand face only				
Operational conditions Frequency and duration of use Other given operational conditions affecting workers exp  Risk Management Measures Technical conditions and measures at process level (sout o prevent release Organisational measures to prevent /limit releases, dispending exposure Conditions and measures related to personal protection,	Covers daily differently) Indoor use Maximum pr Exposed ski  Urce) Good generworker expo Local exhau ersion Keep good i Hand or deri	rocess temperature n surface assumed:  al ventilation should be sufficient to control sure to airborne contaminants st ventilation: no ndustrial hygiene  mal protection not applicable, Respiratory	240 cm² one hand face only				
Operational conditions Frequency and duration of use Other given operational conditions affecting workers exp  Risk Management Measures Technical conditions and measures at process level (sout to prevent release Organisational measures to prevent /limit releases, dispendent exposure	Covers daily differently) Indoor use Maximum pr Exposed ski  Urce) Good generworker expo Local exhau ersion Keep good i Hand or deri	rocess temperature n surface assumed:  al ventilation should be sufficient to control soure to airborne contaminants st ventilation: no ndustrial hygiene	240 cm² one hand face only				
Operational conditions Frequency and duration of use Other given operational conditions affecting workers exp  Risk Management Measures Technical conditions and measures at process level (sout o prevent release Organisational measures to prevent /limit releases, dispending exposure Conditions and measures related to personal protection,	Covers daily differently) Indoor use Maximum pr Exposed ski  urce) Good gener- worker expo Local exhau ersion Hand or deri protection no	rocess temperature n surface assumed:  al ventilation should be sufficient to control sure to airborne contaminants st ventilation: no ndustrial hygiene  mal protection not applicable, Respiratory	240 cm² one hand face only				
Operational conditions Frequency and duration of use Other given operational conditions affecting workers exp  Risk Management Measures Technical conditions and measures at process level (sout to prevent release Organisational measures to prevent /limit releases, disperand exposure Conditions and measures related to personal protection, hygiene and health evaluation  2.1.2 Contributing scenario controlling worker experiences.	Covers daily differently) losure Indoor use Maximum pri Exposed ski  urce) Good gener- worker expo Local exhau ersion Keep good i  Hand or deri protection no	rocess temperature n surface assumed:  al ventilation should be sufficient to control sure to airborne contaminants st ventilation: no ndustrial hygiene  mal protection not applicable, Respiratory	240 cm <sup>2</sup> one hand face only				
Operational conditions Frequency and duration of use Other given operational conditions affecting workers exp  Risk Management Measures Technical conditions and measures at process level (sout operational measures to prevent /limit releases, disperance and exposure Conditions and measures related to personal protection, hygiene and health evaluation  2.1.2 Contributing scenario controlling worker experience and process are supported by the contribution of the co	Covers daily differently) losure Indoor use Maximum pri Exposed ski  urce) Good gener- worker expo Local exhau ersion Keep good i  Hand or deri protection no	al ventilation should be sufficient to control sure to airborne contaminants st ventilation: no ndustrial hygiene mal protection not applicable, Respiratory of applicable. Wear safety glasses	240 cm <sup>2</sup> one hand face only				
Operational conditions Frequency and duration of use Other given operational conditions affecting workers exp  Risk Management Measures Technical conditions and measures at process level (sout to prevent release Organisational measures to prevent /limit releases, dispendent exposure Conditions and measures related to personal protection, hygiene and health evaluation  2.1.2 Contributing scenario controlling worker expendence of the product characteristics	Covers daily differently) Indoor use Indoor use Maximum pr Exposed ski  Irce) Good generworker expo Local exhautersion Hand or derprotection not protection not process with occase.	al ventilation should be sufficient to control sure to airborne contaminants st ventilation: no ndustrial hygiene mal protection not applicable, Respiratory of applicable. Wear safety glasses	240 cm <sup>2</sup> one hand face only				
Operational conditions Frequency and duration of use Other given operational conditions affecting workers exp  Risk Management Measures Technical conditions and measures at process level (sout to prevent release Organisational measures to prevent /limit releases, disperance exposure Conditions and measures related to personal protection, hygiene and health evaluation  2.1.2 Contributing scenario controlling worker experience	Covers daily differently) losure Indoor use Maximum pri Exposed ski  urce) Good gener- worker expo Local exhau ersion Keep good i  Hand or deri protection no	al ventilation should be sufficient to control sure to airborne contaminants st ventilation: no ndustrial hygiene mal protection not applicable, Respiratory of applicable. Wear safety glasses	240 cm <sup>2</sup> one hand face only				
Operational conditions  Frequency and duration of use  Other given operational conditions affecting workers exp  Risk Management Measures  Technical conditions and measures at process level (sout to prevent release)  Organisational measures to prevent /limit releases, disperand exposure  Conditions and measures related to personal protection, hygiene and health evaluation  2.1.2 Contributing scenario controlling worker experiences  PROC2 Use in closed, continuations  Product characteristics  Physical form of product  Operational conditions	Covers daily differently) losure Indoor use Maximum pri Exposed ski  Lurce) Good generworker exponsure Local exhau Keep good i Hand or deri protection no exposure (PROC2) Local process with occasion of the service of	al ventilation should be sufficient to control sure to airborne contaminants st ventilation: no ndustrial hygiene mal protection not applicable, Respiratory of applicable. Wear safety glasses	240 cm² one hand face only				
Operational conditions Frequency and duration of use Other given operational conditions affecting workers exp  Risk Management Measures Technical conditions and measures at process level (sout to prevent release Organisational measures to prevent /limit releases, disperand exposure Conditions and measures related to personal protection, hygiene and health evaluation  2.1.2 Contributing scenario controlling worker exp PROC2 Use in closed, continuation  Product characteristics Physical form of product	Covers daily differently) Indoor use Maximum pr Exposed ski  Urce) Good gener worker expo Local exhau ersion Hand or der protection no exposure (PROC2) Jous process with occas  Solution  Covers daily	al ventilation should be sufficient to control sure to airborne contaminants st ventilation: no ndustrial hygiene mal protection not applicable, Respiratory of applicable. Wear safety glasses	240 cm <sup>2</sup> one hand face only				
Operational conditions  Frequency and duration of use  Other given operational conditions affecting workers exp  Risk Management Measures  Technical conditions and measures at process level (sout to prevent release)  Organisational measures to prevent /limit releases, disperand exposure  Conditions and measures related to personal protection, hygiene and health evaluation  2.1.2 Contributing scenario controlling worker experiences  PROC2 Use in closed, continuations  Product characteristics  Physical form of product  Operational conditions	Covers daily differently) Indoor use Maximum pr Exposed ski  Irce) Good gener worker expo Local exhau ersion Hand or der protection no exposure (PROC2) Jous process with occa  Solution  Covers daily differently)	al ventilation should be sufficient to control sure to airborne contaminants st ventilation: no ndustrial hygiene mal protection not applicable, Respiratory of applicable. Wear safety glasses	240 cm <sup>2</sup> one hand face only				



	Exposed skin surface assumed:	480 cm <sup>2</sup> two hands face
B. J. M.	•	1 0
Risk Management Measures Technical conditions and measures at process level (source)	Good general ventilation should be sufficient to control	3 air changes/hour
to prevent release	worker exposure to airborne contaminants  Local exhaust ventilation: no	
Organisational measures to prevent /limit releases, dispersion and exposure	Keep good industrial hygiene	
Conditions and measures related to personal protection, hygiene and health evaluation	Hand or dermal protection not applicable, Respiratory protection not applicable. Wear safety glasses	
2. Operational conditions and risk manage 1.3 Contributing scenario controlling worker exposure	ment measures (continue)	
PROC3 Use in closed batch process		
<u> </u>	(-)	
Product characteristics Physical form of product	Solution	
Operational conditions		
Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated differently)	
Other given operational conditions affecting workers exposure	Indoor use	10.00
	Maximum process temperature Exposed skin surface assumed:	40 °C 240 cm <sup>2</sup>
		one hand face only
Risk Management Measures Technical conditions and measures at process level (source)	Good general ventilation should be sufficient to control	3 air changes/hour
to prevent release	worker exposure to airborne contaminants  Local exhaust ventilation: no	
Organisational measures to prevent /limit releases, dispersion and exposure	Keep good industrial hygiene	
Conditions and measures related to personal protection,	Hand or dermal protection not applicable.	
hygiene and health evaluation	Respiratory protection not applicable.	
	Wear safety glasses	
1.4 Contributing scenario controlling worker exposure		
	e (PROC4)	
PROC4 Use in batch and other proce		
PROC4 Use in batch and other proce  Product characteristics	e (PROC4)	
PROC4 Use in batch and other proce  Product characteristics  Physical form of product	e (PROC4) ss (synthesis) where opportunity for exposure arises	
PROC4 Use in batch and other proce  Product characteristics  Physical form of product  Operational conditions	e (PROC4) ss (synthesis) where opportunity for exposure arises  Solution  Covers daily exposures up to 8 hours (unless stated	
PROC4 Use in batch and other proce  Product characteristics Physical form of product  Operational conditions  Frequency and duration of use	e (PROC4) ss (synthesis) where opportunity for exposure arises  Solution	
PROC4 Use in batch and other proce Product characteristics Physical form of product  Operational conditions Frequency and duration of use	e (PROC4) ss (synthesis) where opportunity for exposure arises  Solution  Covers daily exposures up to 8 hours (unless stated differently) Indoor use Maximum process temperature	40 °C
PROC4 Use in batch and other proce Product characteristics Physical form of product  Operational conditions Frequency and duration of use	e (PROC4) ss (synthesis) where opportunity for exposure arises  Solution  Covers daily exposures up to 8 hours (unless stated differently) Indoor use	40 °C 480 cm² two hands face
PROC4 Use in batch and other proce  Product characteristics Physical form of product  Operational conditions Frequency and duration of use  Other given operational conditions affecting workers exposure	e (PROC4) ss (synthesis) where opportunity for exposure arises  Solution  Covers daily exposures up to 8 hours (unless stated differently) Indoor use Maximum process temperature	480 cm²
PROC4 Use in batch and other proce  Product characteristics Physical form of product  Operational conditions Frequency and duration of use  Other given operational conditions affecting workers exposure  Risk Management Measures  Technical conditions and measures at process level (source)	e (PROC4) ss (synthesis) where opportunity for exposure arises  Solution  Covers daily exposures up to 8 hours (unless stated differently) Indoor use Maximum process temperature Exposed skin surface assumed:  Good general ventilation should be sufficient to control worker exposure to airborne contaminants	480 cm²
PROC4 Use in batch and other proce  Product characteristics Physical form of product  Operational conditions Frequency and duration of use  Other given operational conditions affecting workers exposure  Risk Management Measures  Technical conditions and measures at process level (source) to prevent release  Organisational measures to prevent /limit releases, dispersion	ss (synthesis) where opportunity for exposure arises    Solution	480 cm² two hands face
PROC4 Use in batch and other proce  Product characteristics Physical form of product  Operational conditions Frequency and duration of use  Other given operational conditions affecting workers exposure  Risk Management Measures Technical conditions and measures at process level (source) to prevent release  Organisational measures to prevent /limit releases, dispersion and exposure	ss (synthesis) where opportunity for exposure arises    Solution	480 cm² two hands face
PROC4 Use in batch and other proce  Product characteristics Physical form of product  Operational conditions Frequency and duration of use  Other given operational conditions affecting workers exposure  Risk Management Measures Technical conditions and measures at process level (source) to prevent release  Organisational measures to prevent /limit releases, dispersion and exposure Conditions and measures related to personal protection,	e (PROC4) ss (synthesis) where opportunity for exposure arises  Solution  Covers daily exposures up to 8 hours (unless stated differently) Indoor use Maximum process temperature Exposed skin surface assumed:  Good general ventilation should be sufficient to control worker exposure to airborne contaminants Local exhaust ventilation: no	480 cm² two hands face
PROC4 Use in batch and other proce  Product characteristics Physical form of product  Operational conditions Frequency and duration of use  Other given operational conditions affecting workers exposure  Risk Management Measures Technical conditions and measures at process level (source) to prevent release  Organisational measures to prevent /limit releases, dispersion and exposure Conditions and measures related to personal protection,	e (PROC4) ss (synthesis) where opportunity for exposure arises  Solution  Covers daily exposures up to 8 hours (unless stated differently) Indoor use Maximum process temperature Exposed skin surface assumed:  Good general ventilation should be sufficient to control worker exposure to airborne contaminants Local exhaust ventilation: no Keep good industrial hygiene  Hand or dermal protection not applicable. Respiratory protection not applicable.	480 cm² two hands face
PROC4  Use in batch and other proce  Product characteristics Physical form of product  Operational conditions  Frequency and duration of use  Other given operational conditions affecting workers exposure  Risk Management Measures Technical conditions and measures at process level (source) to prevent release  Organisational measures to prevent /limit releases, dispersion and exposure Conditions and measures related to personal protection, hygiene and health evaluation	ss (synthesis) where opportunity for exposure arises  Solution  Covers daily exposures up to 8 hours (unless stated differently) Indoor use Maximum process temperature Exposed skin surface assumed:  Good general ventilation should be sufficient to control worker exposure to airborne contaminants Local exhaust ventilation: no Keep good industrial hygiene  Hand or dermal protection not applicable. Respiratory protection not applicable. Wear safety glasses  ment measures (continue)	480 cm² two hands face
PROC4  Use in batch and other proce  Product characteristics Physical form of product  Operational conditions Frequency and duration of use  Other given operational conditions affecting workers exposure  Risk Management Measures Technical conditions and measures at process level (source) to prevent release  Organisational measures to prevent /limit releases, dispersion and exposure Conditions and measures related to personal protection, hygiene and health evaluation  Operational conditions and risk manage  1.5  Contributing scenario controlling worker exposure	ss (synthesis) where opportunity for exposure arises  Solution  Covers daily exposures up to 8 hours (unless stated differently) Indoor use Maximum process temperature Exposed skin surface assumed:  Good general ventilation should be sufficient to control worker exposure to airborne contaminants Local exhaust ventilation: no Keep good industrial hygiene  Hand or dermal protection not applicable. Respiratory protection not applicable. Wear safety glasses  ment measures (continue) e (PROC8a)	480 cm² two hands face  3 air changes/hour
PROC4 Use in batch and other proce  Product characteristics Physical form of product  Operational conditions Frequency and duration of use  Other given operational conditions affecting workers exposure  Risk Management Measures Technical conditions and measures at process level (source) to prevent release  Organisational measures to prevent /limit releases, dispersion and exposure Conditions and measures related to personal protection, hygiene and health evaluation  Operational conditions and risk manage 1.5 Contributing scenario controlling worker exposure  PROC8a Transfer of substance or present and transfer or present and transfe	ss (synthesis) where opportunity for exposure arises  Solution  Covers daily exposures up to 8 hours (unless stated differently) Indoor use Maximum process temperature Exposed skin surface assumed:  Good general ventilation should be sufficient to control worker exposure to airborne contaminants Local exhaust ventilation: no Keep good industrial hygiene  Hand or dermal protection not applicable. Respiratory protection not applicable. Wear safety glasses  ment measures (continue)	480 cm² two hands face  3 air changes/hour
Product characteristics Physical form of product  Operational conditions Frequency and duration of use  Other given operational conditions affecting workers exposure  Risk Management Measures Technical conditions and measures at process level (source) to prevent release  Organisational measures to prevent /limit releases, dispersion and exposure  Conditions and measures related to personal protection, hygiene and health evaluation  Operational conditions and risk manage 1.5 Contributing scenario controlling worker exposure  PROC8a Transfer of substance or pres	ss (synthesis) where opportunity for exposure arises  Solution  Covers daily exposures up to 8 hours (unless stated differently) Indoor use Maximum process temperature Exposed skin surface assumed:  Good general ventilation should be sufficient to control worker exposure to airborne contaminants Local exhaust ventilation: no Keep good industrial hygiene  Hand or dermal protection not applicable. Respiratory protection not applicable. Wear safety glasses  ment measures (continue) e (PROC8a)	480 cm² two hands face  3 air changes/hour
PROC4 Use in batch and other proce  Product characteristics Physical form of product  Operational conditions Frequency and duration of use  Other given operational conditions affecting workers exposure  Risk Management Measures Technical conditions and measures at process level (source) to prevent release  Organisational measures to prevent /limit releases, dispersion and exposure Conditions and measures related to personal protection, hygiene and health evaluation  Operational conditions and risk manage 1.5 Contributing scenario controlling worker exposure  ROC8a Transfer of substance or preproduct characteristics Physical form of product	Solution  Covers daily exposures up to 8 hours (unless stated differently) Indoor use Maximum process temperature Exposed skin surface assumed:  Good general ventilation should be sufficient to control worker exposure to airborne contaminants Local exhaust ventilation: no Keep good industrial hygiene  Hand or dermal protection not applicable. Respiratory protection not applicable. Wear safety glasses  ment measures (continue) e (PROC8a) paration (charging/discharging) from/to vessels/large container	480 cm² two hands face  3 air changes/hour
PROC4 Use in batch and other proce  Product characteristics Physical form of product  Operational conditions Frequency and duration of use  Other given operational conditions affecting workers exposure  Risk Management Measures Technical conditions and measures at process level (source) to prevent release  Organisational measures to prevent /limit releases, dispersion and exposure  Conditions and measures related to personal protection, hygiene and health evaluation  Operational conditions and risk manage 1.5 Contributing scenario controlling worker exposure  PROC8a Transfer of substance or present the product characteristics	Solution  Covers daily exposures up to 8 hours (unless stated differently) Indoor use Maximum process temperature Exposed skin surface assumed:  Good general ventilation should be sufficient to control worker exposure to airborne contaminants Local exhaust ventilation: no Keep good industrial hygiene  Hand or dermal protection not applicable. Respiratory protection not applicable. Wear safety glasses  ment measures (continue) e (PROC8a) paration (charging/discharging) from/to vessels/large container	480 cm² two hands face  3 air changes/hour
PROC4 Use in batch and other proce  Product characteristics Physical form of product  Operational conditions Frequency and duration of use  Other given operational conditions affecting workers exposure  Risk Management Measures Technical conditions and measures at process level (source) to prevent release  Organisational measures to prevent /limit releases, dispersion and exposure  Conditions and measures related to personal protection, hygiene and health evaluation  Product characteristics Physical form of product  Operational conditions  Frequency and duration of use	ss (synthesis) where opportunity for exposure arises    Solution	480 cm² two hands face  3 air changes/hour
PROC4 Use in batch and other proce  Product characteristics Physical form of product  Operational conditions Frequency and duration of use  Other given operational conditions affecting workers exposure  Risk Management Measures Technical conditions and measures at process level (source) to prevent release  Organisational measures to prevent /limit releases, dispersion and exposure Conditions and measures related to personal protection, hygiene and health evaluation  Coperational conditions and risk manage 1.5 Contributing scenario controlling worker exposure  PROC8a Transfer of substance or preproduct characteristics Physical form of product  Operational conditions	Solution  Covers daily exposures up to 8 hours (unless stated differently) Indoor use Maximum process temperature Exposed skin surface assumed:  Good general ventilation should be sufficient to control worker exposure to airborne contaminants Local exhaust ventilation: no Keep good industrial hygiene  Hand or dermal protection not applicable. Respiratory protection not applicable. Wear safety glasses  ment measures (continue) e (PROC8a) paration (charging/discharging) from/to vessels/large container  Solution  Covers daily exposures up to 8 hours (unless stated differently) Indoor use	480 cm² two hands face  3 air changes/hour  s at non dedicated facilities
PROC4 Use in batch and other proce  Product characteristics Physical form of product  Operational conditions Frequency and duration of use  Other given operational conditions affecting workers exposure  Risk Management Measures Technical conditions and measures at process level (source) to prevent release  Organisational measures to prevent /limit releases, dispersion and exposure Conditions and measures related to personal protection, hygiene and health evaluation  Operational conditions and risk manage 1.5 Contributing scenario controlling worker exposure PROC8a Transfer of substance or preproduct characteristics Physical form of product  Operational conditions Frequency and duration of use	ss (synthesis) where opportunity for exposure arises    Solution	480 cm² two hands face  3 air changes/hour

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Risk Management Measures		
Technical conditions and measures at process level (source) to prevent release	Good general ventilation should be sufficient to control worker exposure to airborne contaminants	3 air changes/hour
	Local exhaust ventilation: no	
Organisational measures to prevent /limit releases, dispersion and exposure	Keep good industrial hygiene	
Conditions and measures related to personal protection, hygiene and health evaluation	Hand or dermal protection not applicable. Respiratory protection not applicable. Wear safety glasses	
2.1.6 Contributing scenario controlling worker exposure	(PROC8b)	·
	paration (charging/discharging) from/to vessels/large containers	s at dedicated facilities
Product characteristics		
Physical form of product  Concentration of substance in product	Solution 50 %	
·	30 %	
Operational conditions Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated	
requerity and duration of use	differently)	
Other given operational conditions affecting workers exposure	Indoor use	40.00
	Maximum process temperature  Exposed skin surface assumed:	40 °C 960 cm <sup>2</sup>
	27,0000 01 00.1000 0000	two hands
Risk Management Measures		
Technical conditions and measures at process level (source) to prevent release	Good general ventilation should be sufficient to control worker exposure to airborne contaminants	3 air changes/hour
·	Local exhaust ventilation: no	
Organisational measures to prevent /limit releases, dispersion and exposure	Keep good industrial hygiene	
Conditions and measures related to personal protection, hygiene and health evaluation	Hand or dermal protection not applicable. Respiratory protection not applicable.	
Trygiene and health evaluation	Wear safety glasses	
2. Operational conditions and risk manage		
2.1.7 Contributing scenario controlling worker exposure	e (PROC9)	
DDOCO Transfer of substance or prov	paration into ampli containers (dedicated filling line, including u	voi ahin a\
PROC9 Transfer of substance or prep	paration into small containers (dedicated filling line, including w	reighing)
Product characteristics		eighing)
<u> </u>	paration into small containers (dedicated filling line, including w	eighing)
Product characteristics Physical form of product Operational conditions	Solution	reighing)
Product characteristics Physical form of product		reighing)
Product characteristics Physical form of product Operational conditions	Covers daily exposures up to 8 hours (unless stated differently) Indoor use	
Product characteristics Physical form of product  Operational conditions Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated differently) Indoor use Maximum process temperature	40 °C
Product characteristics Physical form of product  Operational conditions Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated differently) Indoor use	
Product characteristics Physical form of product  Operational conditions Frequency and duration of use  Other given operational conditions affecting workers exposure	Covers daily exposures up to 8 hours (unless stated differently) Indoor use Maximum process temperature	40 °C 480 cm²
Product characteristics Physical form of product  Operational conditions Frequency and duration of use  Other given operational conditions affecting workers exposure  Risk Management Measures Technical conditions and measures at process level (source)	Covers daily exposures up to 8 hours (unless stated differently) Indoor use Maximum process temperature Exposed skin surface assumed:  Good general ventilation should be sufficient to control	40 °C 480 cm²
Product characteristics Physical form of product  Operational conditions Frequency and duration of use  Other given operational conditions affecting workers exposure  Risk Management Measures	Covers daily exposures up to 8 hours (unless stated differently) Indoor use Maximum process temperature Exposed skin surface assumed:	40 °C 480 cm² two hands face
Product characteristics Physical form of product  Operational conditions Frequency and duration of use  Other given operational conditions affecting workers exposure  Risk Management Measures  Technical conditions and measures at process level (source) to prevent release  Organisational measures to prevent /limit releases, dispersion	Covers daily exposures up to 8 hours (unless stated differently) Indoor use Maximum process temperature Exposed skin surface assumed:  Good general ventilation should be sufficient to control worker exposure to airborne contaminants	40 °C 480 cm² two hands face
Product characteristics Physical form of product  Operational conditions Frequency and duration of use  Other given operational conditions affecting workers exposure  Risk Management Measures  Technical conditions and measures at process level (source) to prevent release	Solution  Covers daily exposures up to 8 hours (unless stated differently) Indoor use Maximum process temperature Exposed skin surface assumed:  Good general ventilation should be sufficient to control worker exposure to airborne contaminants Local exhaust ventilation: no	40 °C 480 cm² two hands face
Product characteristics Physical form of product  Operational conditions Frequency and duration of use  Other given operational conditions affecting workers exposure  Risk Management Measures Technical conditions and measures at process level (source) to prevent release  Organisational measures to prevent /limit releases, dispersion and exposure	Covers daily exposures up to 8 hours (unless stated differently) Indoor use Maximum process temperature Exposed skin surface assumed:  Good general ventilation should be sufficient to control worker exposure to airborne contaminants Local exhaust ventilation: no Keep good industrial hygiene  Hand or dermal protection not applicable. Respiratory protection not applicable.	40 °C 480 cm² two hands face
Product characteristics Physical form of product  Operational conditions Frequency and duration of use  Other given operational conditions affecting workers exposure  Risk Management Measures Technical conditions and measures at process level (source) to prevent release  Organisational measures to prevent /limit releases, dispersion and exposure Conditions and measures related to personal protection, hygiene and health evaluation	Covers daily exposures up to 8 hours (unless stated differently) Indoor use Maximum process temperature Exposed skin surface assumed:  Good general ventilation should be sufficient to control worker exposure to airborne contaminants Local exhaust ventilation: no Keep good industrial hygiene  Hand or dermal protection not applicable. Respiratory protection not applicable. Wear safety glasses	40 °C 480 cm² two hands face
Product characteristics Physical form of product  Operational conditions Frequency and duration of use  Other given operational conditions affecting workers exposure  Risk Management Measures Technical conditions and measures at process level (source) to prevent release  Organisational measures to prevent /limit releases, dispersion and exposure  Conditions and measures related to personal protection, hygiene and health evaluation	Covers daily exposures up to 8 hours (unless stated differently) Indoor use Maximum process temperature Exposed skin surface assumed:  Good general ventilation should be sufficient to control worker exposure to airborne contaminants Local exhaust ventilation: no Keep good industrial hygiene  Hand or dermal protection not applicable. Respiratory protection not applicable. Wear safety glasses	40 °C 480 cm² two hands face
Product characteristics Physical form of product  Operational conditions Frequency and duration of use  Other given operational conditions affecting workers exposure  Risk Management Measures Technical conditions and measures at process level (source) to prevent release  Organisational measures to prevent /limit releases, dispersion and exposure  Conditions and measures related to personal protection, hygiene and health evaluation  2.1.8 Contributing scenario controlling worker exposure  PROC15 Use as laboratory reagent	Covers daily exposures up to 8 hours (unless stated differently) Indoor use Maximum process temperature Exposed skin surface assumed:  Good general ventilation should be sufficient to control worker exposure to airborne contaminants Local exhaust ventilation: no Keep good industrial hygiene  Hand or dermal protection not applicable. Respiratory protection not applicable. Wear safety glasses	40 °C 480 cm² two hands face
Product characteristics Physical form of product  Operational conditions Frequency and duration of use  Other given operational conditions affecting workers exposure  Risk Management Measures Technical conditions and measures at process level (source) to prevent release  Organisational measures to prevent /limit releases, dispersion and exposure Conditions and measures related to personal protection, hygiene and health evaluation  2.1.8 Contributing scenario controlling worker exposure PROC15 Use as laboratory reagent	Covers daily exposures up to 8 hours (unless stated differently) Indoor use Maximum process temperature Exposed skin surface assumed:  Good general ventilation should be sufficient to control worker exposure to airborne contaminants Local exhaust ventilation: no Keep good industrial hygiene  Hand or dermal protection not applicable. Respiratory protection not applicable. Wear safety glasses	40 °C 480 cm² two hands face
Product characteristics Physical form of product  Operational conditions Frequency and duration of use  Other given operational conditions affecting workers exposure  Risk Management Measures Technical conditions and measures at process level (source) to prevent release  Organisational measures to prevent /limit releases, dispersion and exposure Conditions and measures related to personal protection, hygiene and health evaluation  2.1.8 Contributing scenario controlling worker exposure PROC15 Use as laboratory reagent  Product characteristics Physical form of product	Covers daily exposures up to 8 hours (unless stated differently) Indoor use Maximum process temperature Exposed skin surface assumed:  Good general ventilation should be sufficient to control worker exposure to airborne contaminants Local exhaust ventilation: no Keep good industrial hygiene  Hand or dermal protection not applicable. Respiratory protection not applicable. Wear safety glasses	40 °C 480 cm² two hands face
Product characteristics Physical form of product  Operational conditions Frequency and duration of use  Other given operational conditions affecting workers exposure  Risk Management Measures Technical conditions and measures at process level (source) to prevent release  Organisational measures to prevent /limit releases, dispersion and exposure Conditions and measures related to personal protection, hygiene and health evaluation  2.1.8 Contributing scenario controlling worker exposure PROC15 Use as laboratory reagent  Product characteristics Physical form of product  Operational conditions	Covers daily exposures up to 8 hours (unless stated differently) Indoor use Maximum process temperature Exposed skin surface assumed:  Good general ventilation should be sufficient to control worker exposure to airborne contaminants Local exhaust ventilation: no Keep good industrial hygiene  Hand or dermal protection not applicable. Respiratory protection not applicable. Wear safety glasses  (PROC15)  Solution	40 °C 480 cm² two hands face
Product characteristics Physical form of product  Operational conditions Frequency and duration of use  Other given operational conditions affecting workers exposure  Risk Management Measures Technical conditions and measures at process level (source) to prevent release  Organisational measures to prevent /limit releases, dispersion and exposure Conditions and measures related to personal protection, hygiene and health evaluation  2.1.8 Contributing scenario controlling worker exposure PROC15 Use as laboratory reagent  Product characteristics Physical form of product	Covers daily exposures up to 8 hours (unless stated differently) Indoor use Maximum process temperature Exposed skin surface assumed:  Good general ventilation should be sufficient to control worker exposure to airborne contaminants Local exhaust ventilation: no Keep good industrial hygiene  Hand or dermal protection not applicable. Respiratory protection not applicable. Wear safety glasses	40 °C 480 cm² two hands face
Product characteristics Physical form of product  Operational conditions Frequency and duration of use  Other given operational conditions affecting workers exposure  Risk Management Measures Technical conditions and measures at process level (source) to prevent release  Organisational measures to prevent /limit releases, dispersion and exposure Conditions and measures related to personal protection, hygiene and health evaluation  2.1.8 Contributing scenario controlling worker exposure PROC15 Use as laboratory reagent  Product characteristics Physical form of product  Operational conditions	Covers daily exposures up to 8 hours (unless stated differently) Indoor use Maximum process temperature Exposed skin surface assumed:  Good general ventilation should be sufficient to control worker exposure to airborne contaminants Local exhaust ventilation: no Keep good industrial hygiene  Hand or dermal protection not applicable. Respiratory protection not applicable. Wear safety glasses  P(PROC15)  Solution  Covers daily exposures up to 8 hours (unless stated differently) Indoor use	40 °C 480 cm² two hands face  3 air changes/hour
Product characteristics Physical form of product  Operational conditions Frequency and duration of use  Other given operational conditions affecting workers exposure  Risk Management Measures Technical conditions and measures at process level (source) to prevent release  Organisational measures to prevent /limit releases, dispersion and exposure Conditions and measures related to personal protection, hygiene and health evaluation  2.1.8 Contributing scenario controlling worker exposure PROC15  Use as laboratory reagent  Product characteristics Physical form of product  Operational conditions Frequency and duration of use	Solution  Covers daily exposures up to 8 hours (unless stated differently) Indoor use Maximum process temperature Exposed skin surface assumed:  Good general ventilation should be sufficient to control worker exposure to airborne contaminants Local exhaust ventilation: no Keep good industrial hygiene  Hand or dermal protection not applicable. Respiratory protection not applicable. Wear safety glasses  (PROC15)  Solution  Covers daily exposures up to 8 hours (unless stated differently) Indoor use Maximum process temperature	40 °C 480 cm² two hands face
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Safety Data Sheet
According to REACH Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 with amendments



## Potassium Phosphite 50% Liquid

	Local exhaust ventilation: no	
Organisational measures to prevent /limit releases, dispersion	Keep good industrial hygiene	
and exposure		
Conditions and measures related to personal protection,	Hand or dermal protection not applicable, Respiratory	
hygiene and health evaluation	protection not applicable,Wear safety glasses	

# 3. Exposure estimation and reference to its source 3.1. Health

Long-term - systemic effect	ts					
DNEL	Inhalation: 41,2 mg/m³ Dermal: 59 mg/kg body	weight/day				
Contributing Scenario	inhalation exposure mg/m³	RCR	dermal exposure mg/kg bodyweight/day	RCR	Sum RCR	Assessment method Inhalation: Used ECETOC TRA model Dermal: Used ECETOC TRA model
PROC1	0,05	0,001	0,034	0,001	0,002	
PROC2	0,5	0,012	1,37	0,023	0,035	
PROC3	0,5	0,012	0,69	0,012	0,024	
PROC4	0,5	0,012	6,86	0,116	0,128	
PROC8a	0,5	0,012	13,71	0,232	0,244	
PROC8b	0,5	0,012	13,71	0,232	0,244	
PROC9	0,5	0,012	6,86	0,116	0,128	
PROC15	0,5	0,012	0,34	0,006	0,018	

#### 3.2. Environment

Environmental exposure	Unit	Exposure estimation	PNEC	RCR	Assessment method
Freshwater	mg/l	0,01	0,137	0,073	Used ECETOC TRA model
Marine water	mg/l	0,0009611	0,0137	0,070	Used ECETOC TRA model
Freshwater sediment	mg/kg dwt	0,036	0,117	0,308	Used ECETOC TRA model
Marine water sediment	mg/kg dwt	0,004	0,0117	0,342	Used ECETOC TRA model
Sewage treatment plant	mg/l	0,05	100	0,001	Used ECETOC TRA model
Soil	mg/kg dwt	0,0007931	1	0,001	Used ECETOC TRA model

## 4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the ES

4.1. Health	
Guidance - Health	Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational
	Conditions outlined in section 2 are implemented. Where other Risk Management Measures/Operational Conditions are
	adopted, then users should ensure that risks are managed to at least equivalent levels

4.2. Environment	
Guidance - Environment	If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety
	assessment is required

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