

Safety data sheet

according to Regulation (EC) No 1907/2006, Article 31

Printing date 13.01.2026

Version number 208.27 (replaces version 208.26)

Revision: 12.01.2026

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

1.1 Product identifier

Trade name Zitronensäure Mono Standard**Other trade names:****Article number:** 1000316141002**CAS Number:**

5949-29-1

EC number:

201-069-1

REACH-Registration number 01-2119457026-42

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

For details on the identifiable uses according to EC-regulation No. 1907/2006 see annex of this safety data sheet.

Application of the substance / the mixture

Basic chemical (without special defined application)

Food additive

Cosmetic auxiliary

Industrial / Professional use

Metal surface treatment

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:

STOCKMEIER Chemie GmbH & Co.KG, Am Stadtholz 37, DE - 33609 Bielefeld

Tel.: +49 521 / 30 37-0, ehs-bielefeld@stockmeier.com

STOCKMEIER Fluids GmbH & Co. KG, Sanssouci 12, DE – 58802 Balve

Tel.: +49 2375 917 310, fluids@stockmeier.com

BASSERMANN Minerals GmbH & Co. KG, Rudolf-Diesel-Straße 42, DE – 68169 Mannheim

Tel.: +49 621 15 01 0, verkauf@bassermann.de

STOCKMEIER CHEMIA Sp. z o. o., ul. Obornicka 277, PL - 60-691 Poznań

Tel.: +48 61 666 10 66, zamowienia@stockmeier.pl

STOCKMEIER QUIMICA, S.L.U., Avda. del Baix Llobregat, 3- 5, ES – 08970 Sant Joan Despí (Barcelona)

Tel.: +34 93 506 91 83, tecnico-calidad@stockmeier.es

STOCKMEIER NETHERLANDS B.V., Ridderpoort 5, NL - 2984 BG Ridderkerk

Tel.: +31 180 41 5988, info@stockmeier.nl

WigaChem GmbH - Brown-Boveri-Straße 6/1/22 - AT- 2351 Wiener Neudorf

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KEMTAN AG, Seewenweg 6, CH – 4153 Reinach

Tel.: +41 61 711 20 20, info@kemtan.ch

STOCKMEIER CHEMICALS BELUX SA/NV, Rue de la Station 17, BE – 1300 Limal

Tel.: +32 10 421-320, info@stockmeierchemicalsbelux.com

HDS – Chemie Handels GES.M.B.H., Bauernmarkt 24, AT - 1010 Wien

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www.stockmeier.com

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Informing department:

Product safety department. Tel.: 0049 / 521 / 3037-381

E-mail: ehs-bielefeld@stockmeier.de

1.4 Emergency telephone number:

This is an English-language document designed for the European region. For the emergency number and other country-specific data, please refer to the specific national versions of this safety data sheet.

Counselling Centre for Poisoning, Mainz

Tel. (+49) 61 31 / 19 240.

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture**Classification according to Regulation (EC) No 1272/2008**

Eye Irrit. 2 H319 Causes serious eye irritation.

STOT SE 3 H335 May cause respiratory irritation.

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

The substance is classified and labelled according to the CLP regulation.

Hazard pictograms

GHS07

Signal word Warning**Hazard statements**

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

Precautionary statements

P264 Wash hands thoroughly after handling.

P280 Wear eye protection / face 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.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Additional information:

According to the current state of knowledge, no synthetic polymer microparticles > 0.01% are contained.

2.3 Other hazards**Results of PBT and vPvB assessment****PBT:** Not applicable**vPvB:** Not applicable**Determination of endocrine-disrupting properties** Not applicable

SECTION 3: Composition/information on ingredients

3.1 Substances**CAS No. Designation:**

5949-29-1 citric acid monohydrate

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Identification no(s):**EC number:** 201-069-1**Additional information:**

Zitronensäure ist ein zugelassener Lebensmittelzusatzstoff nach dem LMBG (E 330).

SVHCThis preparation does not contain any substances of very high concern (SVHC) in a concentration of ≥ 0.1 % according to Regulation (EC) 1907/2006, Article 57.

SECTION 4: First aid measures

4.1 Description of first aid measures**General advice:** If unconscious, position and transport in stable lateral position.**After inhalation**

Supply fresh air; consult doctor in case of symptoms.

After inhalation of product dust, supply fresh air and consult a doctor.

After skin contact

Instantly wash with water and soap and rinse thoroughly. If skin irritation persists, seek medical advice.

After eye contact

Rinse immediately opened eye for several minutes under running water. Then consult doctor.

Rinse opened eye for several minutes under running water. If symptoms persist, consult doctor.

After swallowing

Rinse out mouth and then drink plenty of water.

Seek medical treatment.

4.2 Most important symptoms and effects, both acute and delayed

No further relevant information available.

4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

SECTION 5: Firefighting measures

5.1 Extinguishing media**Suitable extinguishing agents** Use fire fighting measures that suit the environment.**5.2 Special hazards arising from the substance or mixture**

Can be released in case of fire:

carbon monoxide (CO)

carbon dioxide (CO₂)**5.3 Advice for firefighters****Protective equipment:**

Wear self-contained breathing apparatus.

Wear full protective suit with self-contained breathing apparatus.

Additional information Collect contaminated fire fighting water separately. It must not enter drains.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Avoid contact with skin, eyes and clothing.

Put on protective equipment and keep unprotected persons away.

Do not inhale dust.

6.2 Environmental precautions:

Damp down dust with water spray jet.

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Do not allow to enter drainage system, surface or ground water.
In case of release of larger quantities, inform competent authorities.

6.3 Methods and material for containment and cleaning up:

Take up mechanically and rinse off residues with water. Avoid formation of dust. Take up in suitable containers and send for recovery or disposal according to item 13.

6.4 Reference to other sections

See Section 7 for information on safe handling

See Section 8 for information on personal protection equipment.

See Section 13 for information on disposal.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Avoid contact with eyes or skin.

Do not breathe dust.

Keep containers tightly sealed.

Ensure good ventilation/exhaustion at the workplace. Avoid repeated or long-term skin contact.

Prevent formation of dust.

When dissolving, always put water in front and stir in the product.

Information about protection against explosions and fires:

With powdery organic substances, the danger of dust explosions must generally be expected.

Keep ignition sources away - Do not smoke.

Staubexplosionsklasse: ST1

7.2 Conditions for safe storage, including any incompatibilities

Storage Store in cool, dry conditions in well sealed containers.

Requirements to be met by storerooms and containers:

Observe laws and regulations on the storage and use of substances hazardous to water.

Provide acid-resistant floor.

Keep container tightly closed and dry.

Information about storage in one common storage facility: Store away from oxidising agents.

Further information about storage conditions:

Protect from humidity and keep away from water.

Store under dry conditions.

Keep container tightly sealed.

7.3 Specific end use(s) No further relevant information available.

* SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Citronensäure CAS-Nr.: 77-92-9

AGW (Deutschland) Langzeitwert: 2 E mg/m³
2(l); DFG,Y

Components with critical values that require monitoring at the workplace: Not required.

DNELs No DNEL value has been established.

PNECs

PNEC water	440 mg/l (water)
PNEC sediment	3,46 mg/kg dw (freshwater) 34,6 mg/kg dw (Seawater)
PNEC soil	33,1 mg/kg dw (soil)
PNEC STP	>1000 mg/l (sewage plant)

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Additional information: The lists that were valid during the compilation were used as basis.

8.2 Exposure controls

Appropriate engineering controls Extraction required in case of dust formation.

Individual protection measures, such as personal protective equipment

General protective and hygienic measures

Keep away from food, beverages and fodder.

Instantly remove any soiled and impregnated garments.

Wash hands during breaks and at the end of the work.

Avoid contact with the eyes.

Avoid contact with the eyes and skin.

Do not inhale dust. Prevent formation of dust.

Gases, fumes and aerosols should not be inhaled.

Breathing equipment: Breathing protection to be used where a build-up of dust occurs.

Recommended filter device for short term use: Filter P2

Hand protection

Protective gloves (EN 374).

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Material of gloves

Nitrile rubber (NBR), recommended material thickness: $\geq 0,11$ mm, breakthrough time: ≥ 480 min.

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eye/face protection Tightly sealed safety glasses.

Body protection: Standard protective work clothing.

* SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

General Information

Physical state	Solid.
Colour:	White
Smell:	Odourless
Odour threshold:	Not determined
Melting point/freezing point:	153 °C
Boiling point or initial boiling point and boiling range	Not determined
Flammability	Product is not inflammable.
Lower and upper explosion limit	
Lower:	Not determined
Upper:	Not determined
Flash point:	345 °C
Auto-ignition temperature:	345 °C
Decomposition temperature:	> 170 °C
pH	1,8

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pH-value:	
Viscosity:	
Kinematic viscosity	Not determined
dynamic:	Not determined
Solubility	
Water at 20 °C:	600 g/l
Partition coefficient n-octanol/water (log value)	Not determined
Vapour pressure:	Not applicable
Density and/or relative density	
Density at 20 °C	~1,5 g/cm ³
Relative density	Not determined
Settled apparent density	900 kg/m ³
Vapour density	Not determined
Particle characteristics	See section 3.

9.2 Other information**Appearance:****Form:** Powder**Important information on protection of health and environment, and on safety.****Self-inflammability:** Not determined**Explosive properties:** Product is not potentially explosive**Molecular weight** 210,14 g/mol**Evaporation rate** Not determined**Information with regard to physical hazard classes**

Explosives	Void
Flammable gases	Void
Aerosols	Void
Oxidising gases	Void
Gases under pressure	Void
Flammable liquids	Void
Flammable solids	Void
Self-reactive substances and mixtures	Void
Pyrophoric liquids	Void
Pyrophoric solids	Void
Self-heating substances and mixtures	Void
Substances and mixtures, which emit flammable gases in contact with water	Void
Oxidising liquids	Void
Oxidising solids	Void
Organic peroxides	Void
Corrosive to metals	Void
Desensitised explosives	Void

SECTION 10: Stability and reactivity**10.1 Reactivity** No further relevant information available.**10.2 Chemical stability****Thermal decomposition / conditions to be avoided:**

No decomposition if used and stored according to specifications.

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10.3 Possibility of hazardous reactions Corrosive action on metals**10.4 Conditions to avoid** No further relevant information available.**10.5 Incompatible materials:**

Strong bases

strong oxidising agents

10.6 Hazardous decomposition products: No dangerous decomposition products known

* SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**Acute toxicity** Based on available data, the classification criteria are not met.**LD/LC50 values that are relevant for classification:**

Oral | LD50 | 3000 mg/kg (rat)

Primary irritant effect:**Skin corrosion/irritation** Slight irritant, but not sufficient to trigger an EC label.**Serious eye damage/irritation**

Causes serious eye irritation.

Respiratory or skin sensitisation Based on available data, the classification criteria are not met.**Germ cell mutagenicity** Based on available data, the classification criteria are not met.**Carcinogenicity** Based on available data, the classification criteria are not met.**Reproductive toxicity** Based on available data, the classification criteria are not met.**STOT-single exposure**

May cause respiratory irritation.

STOT-repeated exposure Based on available data, the classification criteria are not met.**Aspiration hazard** Based on available data, the classification criteria are not met.**Other information (about experimental toxicology):** Mutagenicity: AMES: negative**STOT-repeated exposure:**

Oral | NOAEL | 1200 mg/kg (rat)

11.2 Information on other hazards**Endocrine disrupting properties** Substance is not listed.

* SECTION 12: Ecological information

12.1 Toxicity**Aquatic toxicity:**

LC 50 / 96 h | 440-760 mg/l (Leuciscus idus) (OECD 203)

LC 50 / 48 h | 440 mg/l (Leuciscus idus)

LC 50 / 24 h | 1535 mg/l (Daphnia magna)

EC 50 / 24 h | 440 mg/l (Leuciscus idus)

EC 50 / 16 h | 1535 mg/l (daphnia)

EC 50 / 72 h | 120 mg/l (Daphnia magna)

12.2 Persistence and degradability

The product is readily biodegradable.

Biodegradability | 97 % (OECD 301 B) (28 d)

98 % (Zahn-Wellens-Test (OECD 302 B))

12.3 Bioaccumulative potential

Due to the distribution coefficient n-octanol/water an accumulation in organisms is not expected.

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12.4 Mobility in soil No further relevant information available.**12.5 Results of PBT and vPvB assessment****PBT:** Not applicable**vPvB:** Not applicable**12.6 Endocrine disrupting properties**

The product does not contain substances with endocrine disrupting properties.

12.7 Other adverse effects**Additional ecological information:****General notes:**

Do not allow to enter drainage system, surface or ground water

Rinse off of bigger amounts into drains or the aquatic environment may lead to decreased pH-values. A low pH-value harms aquatic organisms. In the dilution of the use-level the pH-value is considerably increased, so that after the use of the product the aqueous waste, emptied into drains, is only low water-dangerous.

Water hazard class 1 (Assessment by list): slightly hazardous for water.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

The note below refers to the product left as it is and not to further processed products. When mixed with other products, other disposal routes may be required; if in doubt, consult the supplier of the product or the local authority.

Recommendation

For disposal, the local official regulations must be observed.

Can be deposited with household garbage after consulting with the operator of the waste disposal facility and the pertinent authorities and under adherence to the necessary technical regulations.

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

Waste disposal key number:

Since 1 January 1999, the waste code numbers have not only been product-related but essentially application-related. The waste code number valid for the application can be taken from the European Waste Catalogue.

Uncleaned packagings: Disposal in accordance with official regulations.**Recommendation:**

Empty contaminated packagings thoroughly. They can be recycled after thorough and proper cleaning.

Empty containers completely and send them cleaned for reconditioning or recycling. Dispose of containers only in consultation with local authorities.

Development: After optimal emptying, immediately return to the supplier tightly closed and without cleaning. Make sure that no foreign matter gets into the packaging!

Other containers: Empty completely and clean for reconditioning or reprocessing.

Recommended cleaning agent: Water, if necessary with cleaning agent.

SECTION 14: Transport information

14.1 UN number or ID number
ADR/RID, IMDG, IATA

Void

14.2 UN proper shipping name
ADR/RID, IMDG, IATA

Void

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14.3 Transport hazard class(es)	
ADR/RID	
Class	Void
Label	-
IMDG, IATA	
Class	Void
14.4 Packing group	
ADR/RID, IMDG, IATA	Void
14.5 Environmental hazards:	
Marine pollutant:	Not applicable No
14.6 Special precautions for user	Not applicable
14.7 Maritime transport in bulk according to IMO instruments	
	Not applicable
Transport/Additional information:	Not dangerous according to the above specifications.
UN "Model Regulation":	Void

SECTION 15: Regulatory information

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

Labelling according to Regulation (EC) No 1272/2008

The substance is classified and labelled according to the CLP regulation.

Hazard pictograms



GHS07

Signal word Warning

Hazard statements

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

Precautionary statements

P264 Wash hands thoroughly after handling.

P280 Wear eye protection / face 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.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Directive 2012/18/EU

Named dangerous substances - ANNEX I Substance is not listed.

LIST OF SUBSTANCES SUBJECT TO AUTHORISATION (ANNEX XIV) Substance is not listed.

DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II

Substance is not listed.

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REGULATION (EU) 2019/1148**Regulation (EC) No 273/2004 on drug precursors** Substance is not listed.**Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors**

Substance is not listed.

National regulations**Information about limitation of use:**

Employment restrictions concerning young persons must be observed.

Other regulations, limitations and prohibitive regulations**Substances of very high concern (SVHC) according to REACH, Article 57** Substance is not listed.**15.2 Chemical safety assessment:** A Chemical Safety Assessment has been carried out.**SECTION 16: Other information**

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

This safety data sheet complies with Regulation (EC) No 1907/2006, Article 31 as amended by Regulation (EU) 2023/707.

UFI market placements:

Germany, Bulgaria, Denmark, ESE, Finland, France, Greece, Ireland, ISE, Croatia, Lithuania, Malta, Netherland, Norway, Germany, Poland, Portugal, Romania, Sweden, Slovakia, Slovenia, Spain, Cyprus

Department issuing data specification sheet: See section 1.3: Responding area**Date of previous version:** 27.11.2025**Version number of previous version:** 208.26**Abbreviations and acronyms:**

NOAEL: No Observed Adverse Effect Level

RPE: Respiratory Protective Equipment

RCR: Risk Characterisation Ratio (RCR= PEC/PNEC)

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

CLP: Classification, Labelling and Packaging (Regulation (EC) No. 1272/2008)

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

DNEL: Derived No-Effect Level (REACH)

PNEC: Predicted No-Effect Concentration (REACH)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

SVHC: Substance of Very High Concern

SVHC: Substances of Very High Concern

vPvB: very Persistent and very Bioaccumulative

Eye Irrit. 2: Serious eye damage/eye irritation – Category 2

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

*** Data compared to the previous version altered.**

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* Annex: Exposure scenario 1

Short title of the exposure scenario

Use as an intermediate

Industry

Sector of Use

SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites

SU8 Manufacture of bulk, large scale chemicals (including petroleum products)

SU9 Manufacture of fine chemicals

Product category PC19 Intermediate

Process category

PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions.

PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions

PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition

PROC4 Chemical production where opportunity for exposure arises

PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities

Environmental release category ERC6a Use of intermediate

Description of the activities / processes covered in the Exposure Scenario

See section 1 of the annex to the Safety Data Sheet.

Conditions of use

Duration and frequency 5 workdays/week.

Worker

Covers an annual application up to: 300 day / year

1 application(s) / day

Environment

Emission days (days/year): 300

Annual quantity within the EU: 100 000 t/a

Regionally used share of EU tonnage: 3 000 t/a

Locally used share of regional tonnage: 10 t/a

Annual tonnage of the site (tonnes/year): 3 000

Physical parameters

Physical state

Solid in various forms

Powder

Crystalline

Concentration of the substance in the mixture Raw material.

Other operational conditions

Other operational conditions affecting environmental exposure

Local freshwater dilution factor: 40

Release fraction in air from the process (initial release before RMM): 0 kg/kg

Release fraction in waste water from the process (initial release before RMM): 0,007 kg/kg

Other operational conditions affecting worker exposure

One palm (240 cm²): PROC1, PROC3Both palms (480 cm²): PROC2, PROC4, PROC8b

Avoid contact with eyes.

Other operational conditions affecting consumer exposure No special measures required.

Other operational conditions affecting consumer exposure during the use of the product

Not applicable

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Risk management measures

For the following contributing scenarios: Handle only in a location with local exhaust (or other adequate ventilation) (effectiveness 90%): PROC2, PROC3, PROC4

For subsequent contributing scenarios: Handle only in a location with local exhaust (or other adequate ventilation) (effectiveness 95%): PROC8b

Worker protection

Organisational protective measures Keep good industrial hygiene.

Technical protective measures Ensure that suitable extractors are available on processing machines

Personal protective measures

Breathing protection to be used where a build-up of dust occurs.

Protective gloves (EN 374).

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Nitrile rubber (NBR), recommended material thickness: $\geq 0,11$ mm, breakthrough time: ≥ 480 min.

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

Tightly sealed safety glasses.

Standard protective work clothing.

Do not inhale dust / smoke / mist.

Avoid contact with the eyes.

Tightly sealed safety glasses.

Measures for consumer protection Ensure adequate labelling.

Environmental protection measures

Water No special measures required.

Disposal measures Ensure that waste is collected and contained.

Disposal procedures

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

Waste type Partially emptied and uncleaned packaging

Exposure estimation**Worker (dermal)**

. Exposure assessment RCR

PROC1: 0,3 mg/kg d

PROC2: 0,14 mg/kg d (LEV)

PROC3: 0,03 mg/kg d (LEV)

PROC4: 0,69 mg/kg d (LEV)

PROC8b: 0,69 mg/kg d (LEV)

Worker (inhalation)

. Exposure assessment RCR

PROC1: 0,001 mg/kg/d

PROC2: 0,01 mg/kg/d (LEV)

PROC3: 0,01 mg/kg/d (LEV)

PROC4: 0,36 mg/kg/d (LEV)

PROC8b: 0,18 mg/kg/d (LEV)

Consumer Not relevant for this Exposure Scenario.

Guidance for downstream users No further relevant information available.

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* Annex: Exposure scenario 2

Short title of the exposure scenario

Use in formulations

Industry

Sector of Use

SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites

SU5 Manufacture of textiles, leather, fur

SU10 Formulation [mixing] of preparations and/or re-packaging (excluding alloys)

SU13 Manufacture of other non-metallic mineral products, e.g. plasters, cement

SU20 Health services

Product category

PC1 Adhesives, sealants

PC3 Air care products

PC9a Coatings and paints, thinners, paint removers

PC9b Fillers, putties, plasters, modelling clay

PC9c Finger paints

PC12 Fertilisers

PC18 Ink and toners

PC30 Photochemicals

PC31 Polishes and wax blends

PC35 Washing and cleaning products (including solvent based products)

PC39 Cosmetics, personal care products

Process category

PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions.

PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions

PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition

PROC4 Chemical production where opportunity for exposure arises

PROC5 Mixing or blending in batch processes

PROC7 Industrial spraying

PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities

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

PROC13 Treatment of articles by dipping and pouring

PROC14 Tableting, compression, extrusion, pelletisation, granulation

PROC15 Use as laboratory reagent

PROC19 Manual activities involving hand contact

Environmental release category

ERC1 Manufacture of the substance

ERC2 Formulation into mixture

ERC3 Formulation into solid matrix

ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article)

Conditions of use

Worker

Covers an annual application up to: 300 day / year

1 application(s) / day

Environment

Emission days (days/year): 300

Annual quantity within the EU: 150 000 t/a

Regionally used share of EU tonnage: 6 000 t/a

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Regional application quantity (tonnes/year): 15000

Annual tonnage of the site (tonnes/year): 20

Physical parameters

Physical state

Solid in various forms

Powder

Crystalline

highly volatile

Volatility: low (PROC13, PROC19)

Other operational conditions

Other operational conditions affecting environmental exposure

Release fraction in air from the process (initial release before RMM): 0,0025

Release fraction in waste water from the process (initial release before RMM): 0,0005

Other operational conditions affecting worker exposure

One palm (240 cm²): PROC1, PROC3, PROC15Both palms (480 cm²): PROC2, PROC4, PROC5, PROC8b, PROC9, PROC13, PROC14Both hands (820cm²): PROC8a, -Hands and forearms (1500 cm²): PROC7, -More than hands and forearms (1980 cm²): PROC19, -

Risk management measures

For the following contributing scenarios: Handle only in a location with local exhaust (or other adequate ventilation) (effectiveness 90%): PROC2, PROC3, PROC4, PROC5

PROC7, PROC8a, PROC8b, PROC9, PROC13, PROC14, PROC15, PROC19

Worker protection

Organisational protective measures Keep good industrial hygiene.

Personal protective measures

Breathing protection to be used where a build-up of dust occurs.

Protective gloves (EN 374).

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Nitrile rubber (NBR), recommended material thickness: $\geq 0,11$ mm, breakthrough time: ≥ 480 min.

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

Tightly sealed safety glasses.

Standard protective work clothing. Chemical-resistant safety shoes or boots. If skin contact may occur, wear protective clothing impermeable to this substance.

Acid resistant protective clothing

Environmental protection measures

Water

Generally, prior to the introduction of wastewater into wastewater treatment plants a neutralisation is required.

All contaminated wastewater must be treated in an industrial or public wastewater treatment plant with primary as well as secondary treatment.

Size of the waste water treatment plant (m³/day): 10 000

Disposal measures

For disposal, the local official regulations must be observed.

Can be deposited with household garbage after consulting with the operator of the waste disposal facility and the pertinent authorities and under adherence to the necessary technical regulations.

Exposure estimation The exposure estimation was carried out in accordance with ECETOC TRA.

Worker (dermal)

Exposure assessment RCR

PROC1: 0,34 mg/kg/d

PROC2: 0,14 mg/kg/d

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PROC3:	0,034	mg/kg/d
PROC4:	0,69	mg/kg/d
PROC5:	1,37	mg/kg/d
PROC7:	4,29	mg/kg/d
PROC8a:	1,37	mg/kg/d
PROC8b:	0,69	mg/kg/d
PROC9:	0,69	mg/kg/d
PROC13:	0,69	mg/kg/d
PROC14:	0,34	mg/kg/d
PROC15:	0,34	mg/kg/d
PROC19:	14,1	mg/kg/d

Worker (inhalation)

Exposure assessment RCR

PROC1:	0,0014	mg/kg/d
PROC2:	0,014	mg/kg/d
PROC3:	0,014	mg/kg/d
PROC4:	0,36	mg/kg/d
PROC5:	0,36	mg/kg/d
PROC7:	1,43	mg/kg/d
PROC8a:	0,71	mg/kg/d
PROC8b:	0,36	mg/kg/d
PROC9:	0,29	mg/kg/d
PROC13:	0,0014	mg/kg/d
PROC14:	0,14	mg/kg/d
PROC15:	0,071	mg/kg/d
PROC19:	0,0071	mg/kg/d

Environment

The estimation of environmental exposure was carried out in accordance with EUSES.

The highest environmental exposure to be expected for surface waters is 0,0154 mg / L.

— EUE —

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* Annex: Exposure scenario 3

Short title of the exposure scenario

Use in metal surface treatment

Industry

Sector of Use

SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites

SU14 Manufacture of basic metals, including alloys

SU15 Manufacture of fabricated metal products, except machinery and equipment

SU16 Manufacture of computer, electronic and optical products, electrical equipment

SU17 General manufacturing, e.g. machinery, equipment, vehicles, other transport equipment

Product category

PC7 Base metals and alloys

PC14 Metal surface treatment products

PC25 Metal working fluids

PC31 Polishes and wax blends

PC35 Washing and cleaning products (including solvent based products)

Process category

PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions

PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition

PROC4 Chemical production where opportunity for exposure arises

PROC7 Industrial spraying

PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities

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

PROC10 Roller application or brushing

PROC13 Treatment of articles by dipping and pouring

PROC17 Lubrication at high energy conditions in metal working operations

PROC18 General greasing /lubrication at high kinetic energy conditions

PROC23 Open processing and transfer operations at substantially elevated temperature

Environmental release category

ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article)

ERC6b Use of reactive processing aid at industrial site (no inclusion into or onto article)

Physical parameters

Physical state Mixture

Used amount per time or activity 1000 tons per year

Risk management measures If there is a risk of aerosol or vapour formation, ensure adequate ventilation.

Worker protection

Organisational protective measures Keep good industrial hygiene.

Personal protective measures

Breathing protection to be used where a build-up of dust occurs.

Protective gloves (EN 374).

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Nitrile rubber (NBR), recommended material thickness: $\geq 0,11$ mm, breakthrough time: ≥ 480 min.

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

Tightly sealed safety glasses.

Standard protective work clothing. Chemical-resistant safety shoes or boots. If skin contact may occur, wear protective clothing impermeable to this substance.

Acid resistant protective clothing

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Environmental protection measures**Water**

Generally, prior to the introduction of wastewater into wastewater treatment plants a neutralisation is required.

All contaminated wastewater must be treated in an industrial or public wastewater treatment plant with primary as well as secondary treatment.

Disposal measures

For disposal, the local official regulations must be observed.

Can be deposited with household garbage after consulting with the operator of the waste disposal facility and the pertinent authorities and under adherence to the necessary technical regulations.

Exposure estimation No data available**Environment** No data available

— EUE —

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* Annex: Exposure scenario 4

Short title of the exposure scenario

Use for water treatment

Industry

Sector of Use

SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites

SU14 Manufacture of basic metals, including alloys

SU15 Manufacture of fabricated metal products, except machinery and equipment

SU16 Manufacture of computer, electronic and optical products, electrical equipment

SU17 General manufacturing, e.g. machinery, equipment, vehicles, other transport equipment

Product category

PC4 Anti-Freeze and de-icing products

PC7 Base metals and alloys

PC14 Metal surface treatment products

PC16 Heat transfer fluids

PC17 Hydraulic fluids

PC20 Processing aids such as pH-regulators, flocculants, precipitants, neutralization agents

PC25 Metal working fluids

PC31 Polishes and wax blends

PC35 Washing and cleaning products (including solvent based products)

PC37 Water treatment chemicals

Process category

PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions.

PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions

PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition

PROC4 Chemical production where opportunity for exposure arises

PROC7 Industrial spraying

PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities

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

PROC10 Roller application or brushing

PROC13 Treatment of articles by dipping and pouring

PROC17 Lubrication at high energy conditions in metal working operations

PROC18 General greasing /lubrication at high kinetic energy conditions

PROC20 Use of functional fluids in small devices

PROC23 Open processing and transfer operations at substantially elevated temperature

Environmental release category

ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article)

ERC6b Use of reactive processing aid at industrial site (no inclusion into or onto article)

ERC7 Use of functional fluid at industrial site

Physical parameters

Physical state Mixture

Used amount per time or activity 1000 tons per year

Risk management measures If there is a risk of aerosol or vapour formation, ensure adequate ventilation.

Worker protection

Organisational protective measures Keep good industrial hygiene.

Personal protective measures

Breathing protection to be used where a build-up of dust occurs.

Protective gloves (EN 374).

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

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Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Nitrile rubber (NBR), recommended material thickness: $\geq 0,11$ mm, breakthrough time: ≥ 480 min.

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

Tightly sealed safety glasses.

Standard protective work clothing. Chemical-resistant safety shoes or boots. If skin contact may occur, wear protective clothing impermeable to this substance.

Acid resistant protective clothing

Environmental protection measures**Water**

Generally, prior to the introduction of wastewater into wastewater treatment plants a neutralisation is required.

All contaminated wastewater must be treated in an industrial or public wastewater treatment plant with primary as well as secondary treatment.

Disposal measures

For disposal, the local official regulations must be observed.

Can be deposited with household garbage after consulting with the operator of the waste disposal facility and the pertinent authorities and under adherence to the necessary technical regulations.

Exposure estimation No data available**Environment**

Exposure assessment:

Release fraction from dispersive use to wastewater (regional only):

$0.1 \times 1000 \text{ tpa} \times 1000 \text{ kg/t} / 365 = 274 \text{ kg/day}$ (regional surface water).

$0.9 \times 1000 \text{ tpa} \times 1000 \text{ kg/t} / 365 = 2470 \text{ kg/day}$ (continental surface water)

— EUE —

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* Annex: Exposure scenario 5

Short title of the exposure scenario

Use as laboratory chemical.

Industry

Sector of Use SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites

Product category

PC4 Anti-Freeze and de-icing products

PC16 Heat transfer fluids

PC20 Processing aids such as pH-regulators, flocculants, precipitants, neutralization agents

PC37 Water treatment chemicals

Process category

PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions.

PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions

PROC4 Chemical production where opportunity for exposure arises

PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Environmental release category

ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article)

ERC7 Use of functional fluid at industrial site

ERC8f Widespread use leading to inclusion into/onto article (outdoor)

Physical parameters

Physical state Mixture**Used amount per time or activity** 1000 tons per year**Risk management measures** If there is a risk of aerosol or vapour formation, ensure adequate ventilation.

Worker protection

Organisational protective measures Keep good industrial hygiene.

Personal protective measures

Breathing protection to be used where a build-up of dust occurs.

Protective gloves (EN 374).

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Nitrile rubber (NBR), recommended material thickness: $\geq 0,11$ mm, breakthrough time: ≥ 480 min.

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

Tightly sealed safety glasses.

Standard protective work clothing. Chemical-resistant safety shoes or boots. If skin contact may occur, wear protective clothing impermeable to this substance.

Acid resistant protective clothing

Environmental protection measures

Water

Generally, prior to the introduction of wastewater into wastewater treatment plants a neutralisation is required.

All contaminated wastewater must be treated in an industrial or public wastewater treatment plant with primary as well as secondary treatment.

Disposal measures

For disposal, the local official regulations must be observed.

Can be deposited with household garbage after consulting with the operator of the waste disposal facility and the pertinent authorities and under adherence to the necessary technical regulations.

Exposure estimation No data available

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Environment No data available

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* Annex: Exposure scenario 6

Short title of the exposure scenario

Use in cleaning agents

Industry

Sector of Use SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites

Product category

PC3 Air care products

PC28 Perfumes, fragrances

PC31 Polishes and wax blends

PC35 Washing and cleaning products (including solvent based products)

PC36 Water softeners

PC37 Water treatment chemicals

Process category

PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions

PROC4 Chemical production where opportunity for exposure arises

PROC7 Industrial spraying

PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities

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

PROC10 Roller application or brushing

PROC13 Treatment of articles by dipping and pouring

Article category

AC8 Paper articles

AC35 Scented paper articles

Environmental release category

ERC2 Formulation into mixture

ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article)

ERC8a Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)

ERC8d Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor)

ERC9a Widespread use of functional fluid (indoor)

ERC9b Widespread use of functional fluid (outdoor)

Conditions of use

Worker

Covers an annual application up to: 365 day / year

1 application(s) / day

Environment

Emission days (days/year): 365

Annual quantity within the EU: 100 000 t/a

Regionally used share of EU tonnage: 10%

Regional application quantity (tonnes/year): 10 000

Locally used share of regional tonnage: 200 t/d

Annual tonnage of the site (tonnes/year): 10 kg/d

Physical parameters

Physical state

Granulate

aqueous solution

Volatility: low

Volatility: high (PROC7)

Concentration of the substance in the mixture

Aqueous solutions contain 25 up to 100% of the solid form.

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Other operational conditions**Other operational conditions affecting environmental exposure**

Local freshwater dilution factor: 10

Local seawater dilution factor: 100

Release fraction in air from the process (initial release before RMM): 0

Release fraction in waste water from the process (initial release before RMM): 1

Other operational conditions affecting worker exposureBoth palms (480 cm²): PROC8b, PROC9, PROC13Both hands (960 cm²): PROC8a, PROC10Hands and forearms (1500 cm²): PROC7, -**Risk management measures**

For the following contributing scenarios: Handle only in a location with local exhaust (or other adequate ventilation) (effectiveness 95%): PROC7

Worker protection**Organisational protective measures** Keep good industrial hygiene.**Personal protective measures**

Breathing protection to be used where a build-up of dust occurs.

Protective gloves (EN 374).

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Nitrile rubber (NBR), recommended material thickness: $\geq 0,11$ mm, breakthrough time: ≥ 480 min.

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

Tightly sealed safety glasses.

Standard protective work clothing. Chemical-resistant safety shoes or boots. If skin contact may occur, wear protective clothing impermeable to this substance.

Acid resistant protective clothing

Environmental protection measures**Water**

Generally, prior to the introduction of wastewater into wastewater treatment plants a neutralisation is required.

All contaminated wastewater must be treated in an industrial or public wastewater treatment plant with primary as well as secondary treatment.

Presumed wastewater rate from domestic sewage treatment plants: 2000 m³/d**Disposal measures**

For disposal, the local official regulations must be observed.

Can be deposited with household garbage after consulting with the operator of the waste disposal facility and the pertinent authorities and under adherence to the necessary technical regulations.

Exposure estimation The exposure estimation was carried out in accordance with ECETOC TRA.
Worker (dermal)

. Exposure assessment RCR

PROC7: 2,14 mg/kg/d

PROC8a: 13,7 mg/kg/d

PROC8b: 6,9 mg/kg/d

PROC9: 6,9 mg/kg/d

PROC10: 27,4 mg/kg/d

PROC13: 13,7 mg/kg/d

Worker (inhalation)

. Exposure assessment RCR

PROC7: 0,71 mg/kg/d

PROC8a: 0,07 mg/kg/d

PROC8b: 0,014 mg/kg/d

PROC9: 0,01 mg/kg/d

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PROC10: 0,07 mg/kg/d

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PROC13: 0,014 mg/kg/d

Environment The estimation of environmental exposure was carried out in accordance with EUSES.

EUE

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* Annex: Exposure scenario 7

Short title of the exposure scenario

Use in cleaning agents

Professional

Sector of Use

SU22 Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

Product category

PC3 Air care products

PC28 Perfumes, fragrances

PC31 Polishes and wax blends

PC35 Washing and cleaning products (including solvent based products)

PC36 Water softeners

PC37 Water treatment chemicals

Process category

PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions.

PROC4 Chemical production where opportunity for exposure arises

PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

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

PROC10 Roller application or brushing

PROC11 Non industrial spraying

PROC13 Treatment of articles by dipping and pouring

PROC19 Manual activities involving hand contact

Article category

AC8 Paper articles

AC35 Scented paper articles

Environmental release category

ERC2 Formulation into mixture

ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article)

ERC8a Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)

ERC8d Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor)

ERC9a Widespread use of functional fluid (indoor)

ERC9b Widespread use of functional fluid (outdoor)

Conditions of use

Worker

Covers an annual application up to: 365 day / year

1 application(s) / day

Exposure duration per day: 1 application per day 15 min (washing and dishwashing products).

Exposure duration per day: 1 application per day 30 min (car care products)

Environment

Emission days (days/year): 365

Annual quantity within the EU: 100 000 t/a

Regionally used share of EU tonnage: 10%

Regional application quantity (tonnes/year): 10 000

Locally used share of regional tonnage: 200 t/d

Annual tonnage of the site (tonnes/year): 10 kg/d

Physical parameters

Physical state

Granulate

aqueous solution

Volatility: low

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Concentration of the substance in the mixture

Aqueous solutions contain 25 up to 100% of the solid form.

Used amount per time or activity 10 kg per day**Other operational conditions****Other operational conditions affecting environmental exposure**

Local freshwater dilution factor: 10

Local seawater dilution factor: 100

Other operational conditions affecting worker exposureBoth palms (480 cm²): PROC9, -Both hands (960 cm²): PROC8a, PROC10Hands and forearms (1500 cm²): PROC11, -More than hands and forearms (1980 cm²): PROC19, -

Liquid preparations: pH control.

Granules: The product does not form an aerosol on application.

Risk management measures**Worker protection****Personal protective measures**

For further information on "Personal protective equipment" see section 8 of the safety data sheet.

Environmental protection measures**Water**

Generally, prior to the introduction of wastewater into wastewater treatment plants a neutralisation is required.

All contaminated wastewater must be treated in an industrial or public wastewater treatment plant with primary as well as secondary treatment.

Disposal measures

For disposal, the local official regulations must be observed.

Can be deposited with household garbage after consulting with the operator of the waste disposal facility and the pertinent authorities and under adherence to the necessary technical regulations.

Exposure estimation The exposure estimation was carried out in accordance with ECETOC TRA.
Worker (dermal)

. Exposure assessment RCR

PROC8a: 13,7 mg/kg/d

PROC9: 6,86 mg/kg/d

PROC10: 27,4 mg/kg/d

PROC11: 107 mg/kg/d

PROC19: 141 mg/kg/d

Worker (inhalation)

. Exposure assessment RCR

PROC8a: 0,07 mg/kg/d

PROC9: 0,07 mg/kg/d

PROC10: 0,07 mg/kg/d

PROC11: 0,14 mg/kg/d

PROC19: 0,07 mg/kg/d

Environment The estimation of environmental exposure was carried out in accordance with EUSES.

EUE

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* Annex: Exposure scenario 8

Short title of the exposure scenario

Use in cleaning agents

Consumer

Sector of Use SU21 Consumer uses: Private households / general public / consumers

Product category

PC3 Air care products

PC28 Perfumes, fragrances

PC31 Polishes and wax blends

PC35 Washing and cleaning products (including solvent based products)

PC36 Water softeners

PC37 Water treatment chemicals

Article category

AC8 Paper articles

AC35 Scented paper articles

Environmental release category

ERC8a Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)

ERC8d Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor)

ERC9a Widespread use of functional fluid (indoor)

ERC9b Widespread use of functional fluid (outdoor)

Description of the activities / processes covered in the Exposure Scenario

See section 1 of the annex to the Safety Data Sheet.

Conditions of use

Duration and frequency 5 workdays/week.

Environment

Emission days (days/year): 365

Annual quantity within the EU: 100 000 t/a

Regionally used share of EU tonnage: 10%

Regional application quantity (tonnes/year): 10 000

Locally used share of regional tonnage: 200 t/d

Annual tonnage of the site (tonnes/year): 10 kg/d

Share of the main source in the local environment: 0.0005

Physical parameters

Physical state

Granulate

aqueous solution

Concentration of the substance in the mixture

Aqueous solutions contain 25 up to 100% of the solid form.

Other operational conditions

Other operational conditions affecting environmental exposure

Local freshwater dilution factor: 10

Local seawater dilution factor: 100

Other operational conditions affecting worker exposure

Both hands (960 cm²): -, -

Avoid contact with eyes.

Liquid preparations: pH control.

Granules: The product does not form an aerosol on application.

Other operational conditions affecting consumer exposure

Body weight: 65 kg (standard setting)

Breathing volume under the conditions of use: 26 m³ (standard setting)Room size: 20 m³

Air exchange rate: 0,6 h

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Other operational conditions affecting consumer exposure during the use of the product

Not applicable

Risk management measures**Worker protection****Organisational protective measures** No special measures required.**Technical protective measures** Ensure that suitable extractors are available on processing machines**Personal protective measures**

For further information on "Personal protective equipment" see section 8 of the safety data sheet.

Do not inhale dust / smoke / mist.

Avoid contact with the eyes.

Tightly sealed safety glasses.

Measures for consumer protection Ensure adequate labelling.**Environmental protection measures****Water**

Generally, prior to the introduction of wastewater into wastewater treatment plants a neutralisation is required.

All contaminated wastewater must be treated in an industrial or public wastewater treatment plant with primary as well as secondary treatment.

Disposal measures

For disposal, the local official regulations must be observed.

Can be deposited with household garbage after consulting with the operator of the waste disposal facility and the pertinent authorities and under adherence to the necessary technical regulations.

Ensure that waste is collected and contained.

Disposal procedures

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

Waste type Partially emptied and uncleaned packaging

Exposure estimation No data available**Environment** No data available**Consumer** Not relevant for this Exposure Scenario.

Guidance for downstream users No further relevant information available.
