

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 of the European Parliament and of the Council (REACH),
as amended



LACTIC ACID 80%

Creation date	October 24, 2013	Version number	4.0
Date of revision	07 September 2018		

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

Product identifier 1.1 Substance / mixture Chemical name CAS number EC number (EINECS) Registration number Other names of the substance	LACTIC ACID 80% substance Lactic acid 79-33-4 201-196-2 01-2119474164-39-XXXX L(+)-lactic acid, 2-hydroxypropionic acid, acid 1-Hydroxyethane-1-carboxyl
1.2 Relevant identified uses of the substance or mixture and uses advised against Intended use of the substance Unrecommended use of the substance Chemical safety report The exposure scenario is attached to the safety data sheet.	Food/feed additives, medicinal substances, personal care, cleaning agents, biocidal products, industrial use. The product must not be used in ways other than what they are listed in section 1. It was processed.
1.3 Details of the supplier of the safety data sheet Supplier Name or business name Address Identification number (IČO) Phone E-mail Website address E-mail address of the professionally qualified person responsible for the safety data sheet Name E-mail	Ekokoza s.r.o Fryčovice 297, Fryčovice, 73945 Czech Republic 07508247 605779993 obchod@ekokoza.cz www.ekokoza.cz Ekokoza s.r.o obchod@ekokoza.cz
1.4 Telephone number for emergencies Clinic for occupational diseases, Toxicology Information Center (TIS), Na Bojišti 1, 128 08 Prague 2, 224 919 293 or 224,915,402	

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification of the substance according to Regulation (EC) No. 1272/2008

The substance is classified as dangerous.

Skin Irritation. 2, H315
Eye Dam. 1, H318

The full text of all classifications and H-phrases is given in section 16.

The most serious adverse effects on human health and the environment

Causes serious eye damage. It irritates the skin.

2.2 Marking elements

Danger warning symbol



Signal word

Danger

Hazardous substance

Lactic acid (EC: 201-196-2; CAS: 79-33-4)

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Standard hazard statements

H315 It irritates the skin.

H318 Causes serious eye damage.

Instructions for safe handling

P280 Use safety glasses.

P302+P352 IF ON SKIN: Wash with plenty of soap and water.

P305+P351+P338 IF IN EYES: Rinse carefully with water for several minutes. Remove contact lenses, if present fitted and if they can be removed easily. Continue rinsing.

P310 Call a doctor immediately.

P332+P313 In case of skin irritation: Seek medical attention/treatment.

P362+P364 Remove contaminated clothing and wash before reuse.

2.3 Another danger

The substance does not meet the criteria for PBT or vPvB substances in accordance with Annex XIII, Regulation (EC) No. 1907/2006 (REACH) in force wording.

SECTION 3: Composition/information on ingredients

3.1 Substances

Chemical characteristics

The substance below.

Identification numbers	Substance name	Content in % weight	Classification according to regulation (EC) no. 1272/2008	Note
CAS: 79-33-4 EC: 201-196-2 Registration number: 01-2119474164-39-XXXX	the main component of a substance Lactic acid	>76	Skin Irritation. 2, H315 Eye Dam. 1, H318	

The full text of all classifications and H-phrases is given in section 16.

SECTION 4: First aid measures

4.1 Description of first aid

Take care of your own safety. In case of health problems or in case of doubt, inform the doctor and provide him information from this Safety Data Sheet.

When inhaled

Stop the exposure immediately, move the victim to fresh air.

In contact with skin

Put away the stained clothing. Wash the affected area with plenty of lukewarm water if possible. If there was no injury skin, it is also advisable to use soap, soap solution or shampoo. Get medical treatment if skin irritation persists.

On contact with the eyes

Immediately flush the eyes with a stream of running water, open the eyelids (perhaps by force); if the affected person wears contact lenses, remove them immediately. Do not neutralize under any circumstances! Rinse for 10-30 minutes from the inner corner to externally so that the other eye is not affected. Get medical treatment as soon as possible. Each and every person must be sent for examination in case of a small impact.

When ingested

DO NOT INDUCE VOMITING! Rinse the oral cavity with water and drink 2-5 dl of water. For a person who has health problems, get medical treatment.

4.2 Most important symptoms and effects, both acute and delayed

When inhaled

Inhalation of vapors may cause burns to the respiratory tract.

In contact with skin

It irritates the skin.

On contact with the eyes

Causes serious eye damage.

When ingested

Digestive tract irritation may occur.

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- 4.3 Indication of any immediate medical attention and special treatment needed**
not specified

SECTION 5: Firefighting measures

- 5.1 Fire extinguishers**
Suitable extinguishing agents
Foam resistant to alcohol, carbon dioxide, powder, water jet, water mist.
Unsuitable fire extinguishers
Water - full flow.
- 5.2 Special hazards arising from the substance or mixture**
In case of fire, toxic gases may be produced. Inhalation of dangerous decomposition (pyrolysis) products can cause serious damage to health.
- 5.3 Instructions for firefighters**
Use self-contained breathing apparatus and a full-body protective suit. Do not let the contaminated fire extinguishing agent escape into the sewer, surface and groundwater.

SECTION 6: Accidental release measures

- 6.1 Personal protection measures, protective equipment and emergency procedures**
Use personal protective work equipment. Follow the instructions in Sections 7 and 8.
- 6.2 Environmental protection measures**
Avoid soil contamination and release to surface or ground water.
- 6.3 Methods and material for containment and cleaning up**
Cover spilled product with suitable absorbent material (sand, diatomaceous earth, earth, universal absorbents), collect in well-closed containers and dispose of according to section 13. In case of spillage of large quantities of product, notify the fire brigade and others competent authorities. After removing the product, wash the contaminated area with plenty of water.
- 6.4 Reference to Other Sections**
See section 7, 8 and 13.

SECTION 7: Handling and storage

- 7.1 Precautions for safe handling**
Avoid contact with skin and eyes. Do not inhale aerosols. Use personal protective work equipment according to the section 8. Pay attention to the applicable legal regulations on safety and health protection.
- 7.2 Conditions for safe storage of substances and mixtures, including incompatible substances and mixtures**
Store in tightly closed containers in cool, dry and well-ventilated places designated for this purpose.
Specific requirements or rules related to the substance/mixture
They are not fixed
- 7.3 Specific end/specific end uses**
not specified

SECTION 8: Exposure controls/personal protection

- 8.1 Control parameters**
none
- 8.2 Limiting Exposure**
Observe the usual health protection measures at work and especially good ventilation. This can only be achieved by locals exhaust or effective general ventilation. Do not eat, drink or smoke while working. After work and before a meal break a wash your hands thoroughly with soap and water.
Eye and face protection
Safety glasses or a face shield (depending on the nature of the work performed).
Skin protection
Hand protection: Protective gloves resistant to the product. Follow the recommendations of the specific glove manufacturer when choosing a suitable one thickness, material and permeability. Follow the manufacturer's other recommendations. Other protection: Protective work clothing. When polluted wash your skin thoroughly.

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Respiratory protection

Ensure adequate ventilation.

Thermal hazard

Not listed.

Limiting environmental exposure

Observe usual environmental protection measures, see section 6.2.

Additional information

An exposure scenario is attached to the safety data sheet. An exposure scenario is attached to the safety data sheet.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

liquid	Viscous
appearance at 20°C	Yellowish to yellow
odor	the data is not available
odor threshold pH melting	the data is not available
point / freezing point initial	<2 (undiluted at 25°C)
boiling point and boiling point range flash point	the data is not available
evaporation	110-130 °C
rate flammability (solids, gases) upper/lower flammability or explosive limits	the data is not available
flammability limits	Not applicable.
explosion limits	the data is not available
vapor	the data is not available
pressure vapor	the data is not available
density relative density	1.10 - 1.25 (water = 1)
solubility	
water solubility fat solubility	fully miscible
partition coefficient: n-	the data is not available
octanol/water autoignition temperature decomposition	-0.62
temperature viscosity	the data is not available
	the data is not available
	5-60 mPa.s
explosive properties	It is not explosive.
oxidizing properties	It has no oxidizing properties.

9.2 More information

density	1.10-1.25 g/cm ³
ignition temperature	400°C

SECTION 10: Stability and reactivity

10.1 Reactivity

The product is stable under normal conditions.

10.2 Chemical stability

The product is stable under normal conditions.

10.3 Possibility of hazardous reactions

They are not known.

10.4 Conditions to Avoid

Temperature >200 °C.

10.5 Incompatible Materials

Hydroxides, bases, oxidizing agents.

10.6 Hazardous decomposition products

They do not arise under normal use. At high temperatures and in case of fire, dangerous products such as oxide are formed
carbon dioxide and carbon dioxide.

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SECTION 11: Toxicological information

11.1 Information on toxicological effects

No toxicological data are available for the substance.

Acute toxicity

Based on the available data, the classification criteria are not met.

Skin corrosion/irritation

It irritates the skin.

Serious eye damage / eye irritation

Causes serious eye damage.

Respiratory sensitization / skin sensitization

Based on the available data, the classification criteria are not met.

Germ cell mutagenicity

Based on the available data, the classification criteria are not met.

Carcinogenicity

Based on the available data, the classification criteria are not met.

Reproductive toxicity

Based on the available data, the classification criteria are not met.

Specific target organ toxicity - single exposure

Based on the available data, the classification criteria are not met.

Specific target organ toxicity - repeated exposure

Based on the available data, the classification criteria are not met.

Inhalation hazard

Based on the available data, the classification criteria are not met.

SECTION 12: Ecological information

12.1 Toxicity

Acute toxicity

Based on the available data, the classification criteria are not met.

12.2 Persistence and Deployability

Biodegradability

Lactic acid

Parameter	Value	Exposure time	Environment	Result
BOD	0.45 mg/kg	5 day		
BOD	0.6 mg/kg	20 day		
COD	0.9 mg/kg			

Biochemical oxygen demand (BOD): 0.45 mg/mg, incubation time: 5 d; 0.6 mg/mg, incubation period: 20 d
Chemical oxygen demand (COD): 0.9 mg/mg

12.3 Bioaccumulative potential

The product is miscible with water and easily biodegradable in water and soil. Accumulation in the organism is not expected.

12.4 Mobility in soil

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Not listed.

12.5 Results of PBT and vPvB assessment

The product does not contain substances meeting the criteria for PBT or vPvB substances in accordance with Annex XIII, Regulation (EC) no. 1907/2006 (REACH) as amended.

12.6 Other adverse effects

Not specified.

SECTION 13: Disposal instructions 13.1 Waste

management methods Risk of environmental

contamination, proceed according to Act No. 185/2001 Coll. on waste, as amended, and according to implementing regulations on waste disposal. Follow the applicable waste disposal regulations. Place the unused product and the contaminated packaging in marked containers for waste collection and hand it over to an authorized person for waste disposal (a specialized company) that is authorized for this activity. Do not pour the unused product down the drain.

It must not be disposed of together with municipal waste. Empty packaging can be used for energy in a waste incinerator or stored in a landfill of the appropriate classification. Perfectly cleaned packaging can be sent for recycling.

Legal regulations on waste Act No.

185/2001 Coll., on waste, as amended. Decree No. 383/2001 Coll., on the details of waste management, as amended. Decree No. 93/2016 Coll., (waste catalog) as amended. Decree No. 94/2016 Coll., on the assessment of hazardous waste properties, as amended.

SECTION 14: Transport information 14.1 UN

number Not subject to

ADR regulations.

14.2 Official (UN) shipping name not given

14.3 Transport hazard class(es).

not specified

14.4 Packaging group not specified

14.5 Environmental hazard not specified

14.6 Special precautions for user Reference in sections 4 to 8.

14.7 Bulk transport according to Annex II of the MARPOL Convention and the IBC Regulation

not specified

SECTION 15: Regulatory information 15.1 Safety,

health and environmental regulations/substance-specific legislation or mixtures

Regulation of the European Parliament and of the Council (EC) No. 1907/2006 of 18 December 2006 on the registration, evaluation, authorization and restriction of chemical substances, on the establishment of the European Chemicals Agency, on the amendment of Directive 1999/45/EC and on the repeal of the Regulation Council (EEC) No. 793/93, Commission Regulation (EC) No. 1488/94, Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC as amended. Regulation of the European Parliament and of the Council (EC) No. 1272/2008 of 16 December 2008 on the classification, labeling and packaging of substances and mixtures, on the amendment and repeal of Directives 67/548/EEC and 1999/45/EC and on the amendment of the Regulation (EC) No. 1907/2006 as amended. Act No. 350/2011 Coll., on Chemical Substances and Chemical Mixtures and on Amendments to Certain Acts (Chemical Act). Act No. 258/2000 Coll., on the protection of public health as amended. Government Regulation No. 361/2007 Coll., which establishes the conditions for health protection at work as amended. Decree No. 415/2012 Coll., on the permissible level of pollution and its determination and on the implementation of some other provisions of the Air Protection Act as amended. Act No. 185/2001 Coll., on waste and its implementing regulations as amended. Act No. 201/2012 Coll., on air protection as amended. Decree No. 432/2003 Coll., which establishes the conditions for classifying work into categories, the limit values of indicators of biological exposure tests, the conditions for sampling biological material for carrying out biological exposure tests and the requirements for reporting work with asbestos and biological agents, as amended.

15.2 Chemical safety assessment It has been carried out.

SECTION 16: Further information

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List of standard hazard statements used in the safety data sheet

H315	It irritates the skin.
H318	Causes serious eye damage.

List of safe handling instructions used in the safety data sheet

P280	Use safety glasses.
P305+P351+P338	IF IN EYES: Rinse carefully with water for several minutes. Remove contact lenses, if present fitted and if they can be removed easily. Continue rinsing.
P310	Call a doctor immediately.
P302+P352	IF ON SKIN: Wash with plenty of soap and water.
P332+P313	In case of skin irritation: Seek medical attention/treatment.
P362+P364	Remove contaminated clothing and wash before reuse.

Additional information important from the point of view of safety and protection of human health

The product may not - without the special consent of the manufacturer/importer - be used for a purpose other than that specified in section 1. User is responsible for compliance with all relevant health regulations.

Legend to abbreviations and acronyms used in the safety data sheet

ADR	European agreement on the international transport of dangerous goods by road
BCF	Bioconcentration factor
TIME	Chemical Abstracts Service
CLP	Regulation (EC) No. 1272/2008 on classification, labeling and packaging of substances and mixtures
TODAY	The derived level at which no adverse effects occur
EC ₅₀	The concentration of a substance at which 50% of the population is affected
EINECS	European list of existing traded chemical substances
EmS	Contingency plan
EC	The EC number is the numerical identifier of substances on the EC list
EU	European Union
IATA	International Air Transport Association
IBC	International Code for the Construction and Equipment of Ships Carrying Hazardous Chemicals in Bulk
IC ₅₀	Concentration causing 50% blockade
ICAO	International Civil Aviation Organization
IMDG	International maritime transport of dangerous goods
INCI	International nomenclature of cosmetic ingredients
ISO	International Organization for Standardization
IUPAC	International Union of Pure and Applied Chemistry
LC ₅₀	Lethal concentration of a substance that can be expected to cause the death of 50% of the population
LD ₅₀	Lethal dose of a substance that can be expected to cause the death of 50% of the population
LOAEC	The lowest concentration with an observed adverse effect
LOAEL	The lowest dose with an observed adverse effect
log K _{ow}	Octanol-water partition coefficient
MARPOL	International Convention for the Prevention of Pollution from Ships
NOAEC	Concentration with no observed adverse effect
NOAEL	No-observed-adverse-effect dose value
NOEC	Concentration without observed effects
CHRISTMAS	No-observed-effect dose value
NPK	The highest permissible concentration
OEL	Exposure limits in the workplace
PBT	Persistent, bioaccumulative and toxic
PEL	Permissible exposure limit
PNEC	An estimate of the concentration at which no adverse effects occur
ppm	Number of particles per million (millionth)
REACH	Registration, evaluation, authorization and restriction of chemical substances
RID	Agreement on the transport of dangerous goods by rail
UN	The four-digit identification number of the substance or article taken from the UN Model Regulations
UVCB	Substance of unknown or variable composition, complex reaction product, or biological material
VOCs	Volatile organic compounds
vPvB	Highly persistent and highly bioaccumulative

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Eye Dam.	Serious eye damage
Skin Irritation.	Skin irritation

Training Guidelines

Familiarize workers with the recommended method of use, mandatory protective equipment, first aid and prohibited items manipulations with the mixture.

Recommended use restrictions

not specified

Information on data sources used in compiling the safety data sheet

Regulation of the European Parliament and of the Council (EC) No. 1907/2006 (REACH) as amended. Regulation of the European Parliament a Council (EC) No. 1272/2008 as amended. Act No. 350/2011 Coll., on chemical substances and chemical mixtures in force wording. Principles for providing first aid in case of exposure to chemical substances (Doc. Daniela Pelclová, M.D., CSc., M.D. Alexandr Fuchs, CSc., MUDr. Miroslava Hornychová, CSc., MUDr. Zdeňka Trávníčková, CSc., Jiřina Fridrichovská, prom. chem.). Data from the manufacturer of the substance/mixture, if available - data from the registration documentation.

Changes made (which information was added, deleted or modified)

Version 4.0 replaces the BL version from 08/08/2018. Changes have been made in all sections.

Declaration

The safety data sheet contains information to ensure safety and health protection at work and environmental protection. Listed the data correspond to the current state of knowledge and experience and are in accordance with applicable legal regulations. They can't be considered as a guarantee of suitability and usability of the product for a specific application.

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according to Regulation (EC) No. 1907/2006

L(+)-Lactic Acid

Version 2.0

Revision Date: 24/07/2017

1. Short title of Exposure Scenario: (Ref.: 1) Use in agriculture, forestry, fisheries

Main User Groups	: SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Sectors of end-use	: SU1: Agriculture, forestry, fisheries SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Chemical product category	: PC9a: Coatings and paints, thinners, paint removers PC12: Fertilizers PC15: Non-metal surface treatment products PC20: Products such as pH-regulators, flocculants, precipitants, neutralization agents PC21: Laboratory chemicals
Process categories	: PROC3: Use in closed batch process (synthesis or formulation) PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises 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) PROC15: Use as laboratory reagent
Environmental Release Categories :	ERC2: Formulation of preparations ERC4: Industrial use of processing aids in processes and products, not becoming part of articles ERC8a: Wide dispersive indoor use of processing aids in open systems ERC9a: Wide dispersive indoor use of substances in closed systems

2.1 Contributing scenario controlling environmental exposure for: ERC2, ERC4, ERC8a, ERC9a: Formulation of preparations, Industrial use of processing aids in processes and products, not becoming part of articles, Wide dispersive indoor use of processing aids in open systems, Wide dispersive indoor use of substances in closed systems

Product characteristics	
Concentration of the Substance in Mixture/Article	: Covers the percentage of the substance in the product up to 100% (unless stated differently).
Amount used	
EU tonnage	: 58000 t/a

Technical conditions and measures / Organizational measures

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L(+)-Lactic Acid

Version 2.0

Revision Date: 24/07/2017

Remarks

: No RMMs applicable. No hazard to the environment. Environmental exposure assessment for this scenario is not relevant.

2.2 Contributing scenario controlling worker exposure for: PROC3, PROC4, PROC8b, PROC9, PROC15: Use in closed batch process (synthesis or formulation), Use in batch and other process (synthesis) where opportunity for exposure arises, Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities, Transfer of substance or preparation into small containers (dedicated filling line, including weighing), Use as laboratory reagent

Product characteristics

Concentration of the Substance in Mixture/Article

: Covers the percentage of the substance in the product up to 100% (unless stated differently).

Technical conditions and measures

Ensure adequate ventilation, especially in confined areas. Avoid temperatures above 200°C.

Organizational measures to prevent/limit releases,

dispersion and exposure

Do not eat, drink or smoke when using this product. Avoid skin contact. Remove and wash contaminated clothing before re-use.

Conditions and measures related to personal protection

ion, hygiene and health evaluation

Breathing apparatus only if aerosol or dust is formed.

Rubber gloves

Face-shield

Boots

Chemical resistant apron Long

sleeved clothing

Notes

Local effects

Risk Management Measures are based on qualitative risk characterization.

3. Exposure estimation and reference to its source

Environment

Contributing Scenario	Exposure Assessment	Specific conditions	Compartment Value		Level of Exposure	RCR	
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Version 2.0

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	Method					
	Qualitative approach used to conclude safe use.		All compartments			

Remarks: Environmental exposure assessment for this scenario is not relevant.
No hazard to the environment.

Workers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value	Level of Exposure	RCR
All PROCs Qual	tative approach used to conclude safe use.				

All PROCs : All PROCs mentioned in section 1.

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

The immediate downstream user is required to evaluate

whether the operational conditions and risk management measures described in the exposure scenario fit to his use.

If other OC/RMM are adopted, the user should ensure that risks are managed to at least equivalent levels.

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Version 2.0

Revision Date: 24/07/2017

1. Short title of Exposure Scenario: (Ref.: 2) Use in mining

Main User Groups : SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

Sectors of end-use : SU2a: Mining, (without offshore industries)
SU2b: Offshore industries
SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

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

Environmental Release Categories : ERC2: Formulation of preparations
ERC4: Industrial use of processing aids in processes and products, not becoming part of articles

2.1 Contributing scenario controlling environmental exposure for: ERC2, ERC4: Formula-
tion of preparations, Industrial use of processing aids in processes and products, not
becoming part of articles

Product characteristics
Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100% (unless stated differently).

Amount used
EU tonnage : 58000 t/a

Technical conditions and measures / Organizational measures
Remarks : No RMMs applicable. No hazard to the environment. Environmental exposure assessment for this scenario is not relevant.

2.2 Contributing scenario controlling worker exposure re for: PROC2: Use in closed, contin-
process with occasional controlled exposure

Product characteristics
Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100% (unless stated differently).

Technical conditions and measures
Ensure adequate ventilation, especially in confined areas. Avoid temperatures above 200°C.

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Revision Date: 24/07/2017

Organizational measures to prevent/limit releases, dispersion and exposure
Do not eat, drink or smoke when using this product. Avoid skin contact. Remove and wash contaminated clothing before re-use.

Conditions and measures related to personal protection ion, hygiene and health evaluation
Breathing apparatus only if aerosol or dust is formed.
Rubber gloves
Face-shield
Boots
Chemical resistant apron Long sleeved clothing

Notes

Local effects
Risk Management Measures are based on qualitative risk characterization.

3. Exposure estimation and reference to its source

Environment

Contributing Scenario	Exposure Assessment Method	Specific conditions	Compartment Value		Level of Exposure	RCR
	Qualitative approach used to conclude safe use.		All compartments			

Remarks: Environmental exposure assessment for this scenario is not relevant.
No hazard to the environment.

Workers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value	Level of Exposure	RCR
All PROCs Qualitative approach used to conclude safe use.					

All PROCs : All PROCs mentioned in section 1.

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

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The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit his use.

If other OC/RMM are adopted, the user should ensure that risks are managed to at least equivalent levels.

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L(+)-Lactic Acid

Version 2.0

Revision Date: 24/07/2017

1. Short title of Exposure Scenario: (Ref.: 3) Use in mining (without offshore industries)

Main User Groups : SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

Sectors of end-use : SU2a: Mining, (without offshore industries)
SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites
SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

Chemical product category : PC37: Water treatment chemicals

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

Environmental Release Categories: ERC4: Industrial use of processing aids in processes and products, not becoming part of articles

2.1 Contributing scenario controlling environmental exposure for: ERC4: Industrial use of processing aids in processes and products, not becoming part of articles

Product characteristics
Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100% (unless stated differently).

Amount used
EU tonnage : 58000 t/a

Technical conditions and measures / Organizational measures
Remarks : No RMMs applicable. No hazard to the environment. Environmental exposure assessment for this scenario is not relevant.

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

Product characteristics
Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100% (unless stated differently).

Technical conditions and measures
Ensure adequate ventilation, especially in confined areas. Avoid temperatures above 200°C.

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Do not eat, drink or smoke when using this product. Avoid skin contact. Remove and wash contaminated clothing before re-use.

Conditions and measures related to personal protection ion, hygiene and health evaluation
Breathing apparatus only if aerosol or dust is formed.
Rubber gloves
Face-shield
Boots
Chemical resistant apron Long sleeved clothing

Notes

Local effects
Risk Management Measures are based on qualitative risk characterization.

3. Exposure estimation and reference to its source

Environment

Contributing Scenario	Exposure Assessment Method	Specific conditions	Compartment Value		Level of Exposure	RCR
	Qualitative approach used to conclude safe use.		All compartments			

Remarks: Environmental exposure assessment for this scenario is not relevant.
No hazard to the environment.

Workers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value	Level of Exposure	RCR
All PROCs	Qualitative approach used to conclude safe use.				

All PROCs : All PROCs mentioned in section 1.

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

The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit his use.

If other OC/RMM are adopted, the user should ensure that risks are managed to at least equivalent levels.

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1. Short title of Exposure Scenario: (Ref.: 4) Industrial manufacturing without subsequent relevant service life

Main User Groups	: SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites
Sectors of end-use	: SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites
Chemical product category	: PC1: Adhesives, sealants PC3: Air care products PC4: Anti-Freeze and de-icing products PC8: Biocidal products (eg Disinfectants, pest control) PC9a: Coatings and paints, thinners, paint removers PC9b: Fillers, putties, plasters, modeling clay PC9c: Finger paints PC14: Metal surface treatment products, including galvanic and electroplating products PC15: Non-metal surface treatment products PC20: Products such as pH-regulators, flocculants, precipitants, neutralization agents PC21: Laboratory chemicals PC24: Lubricants, greases, release products PC25: Metal working fluids PC31: Polishes and wax blends PC35: Washing and cleaning products (including solvent based products) PC38: Welding and soldering products (with flux coatings or flux cores.), flux products
Process categories	: PROC1: Use in closed process, no likelihood of exposure PROC2: Use in closed, continuous process with occasional controlled exposure PROC3: Use in closed batch process (synthesis or formula-tion) 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) PROC6: Calendering operations PROC7: Industrial spraying PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing) PROC10: Roller application or brushing PROC11: Non industrial spraying PROC13: Treatment of articles by dipping and pouring PROC14: Production of preparations or articles by tableting,

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compression, extrusion, pelletisation
PROC15: Use as laboratory reagent
PROC16: Using material as fuel sources, limited exposure to unburned product to be expected
PROC17: Lubrication at high energy conditions and in part open process
PROC18: Greasing at high energy conditions
PROC19: Hand-mixing with intimate contact and only PPE available

PROC20: Heat and pressure transfer fluids in dispersive, professional use but closed systems
PROC24: High (mechanical) energy work-up of substances bound in materials and/or articles
PROC26: Handling of solid inorganic substances at ambient temperature

Environmental Release Categories : ERC2: Formulation of preparations

ERC4: Industrial use of processing aids in processes and products, not becoming part of articles
ERC5: Industrial use resulting in inclusion into or onto a matrix
ERC6b: Industrial use of reactive processing aids
ERC7: Industrial use of substances in closed systems
ERC8a: Wide dispersive indoor use of processing aids in open systems
ERC8b: Wide dispersive indoor use of reactive substances in open systems
ERC8d: Wide dispersive outdoor use of processing aids in open systems
ERC8e: Wide dispersive outdoor use of reactive substances in open systems
ERC9a: Wide dispersive indoor use of substances in closed systems
ERC9b: Wide dispersive outdoor use of substances in closed systems

2.1 Contributing scenario controlling environmental exposure for: ERC2, ERC4, ERC5, ERC6b, ERC7, ERC8a, ERC8b, ERC8d, ERC8e, ERC9a, ERC 9b: Formulation of preparations, Industrial use of processing aids in process es and products, not becoming part of articles, Industrial use resulting in inclusion int o or onto a matrix, Industrial use of reactive processing aids, Industrial use of substances in closed systems, Wide dispersive indoor use of processing aids in open systems, Wide dispersive indoor use of reactive substances in open systems, Wide dispersive outdoor use of processing aids in open systems, Wide dispersive outdoor use of reactive substances in open systems, Wide dispersive indoor use of substances in closed systems substances in closed systems, Wide dispersive outdoor use of

Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100% (unless stated differently).

Amount used

EU tonnage : 58000 t/a

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Technical conditions and measures / Organizational measures

Remarks

: No RMMs applicable. No hazard to the environment. Environmental exposure assessment for this scenario is not relevant.

2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC3, PROC4, PROC5, PROC6, PROC7, PROC8a, PROC8b, PROC9, PROC10, PROC11, PROC13, PROC14, PROC15, PROC16, PROC17, PROC18, PROC19, PROC20, PROC24, PROC26: Use in closed process, no likelihood of exposure, Use in closed, continuous process with occasional controlled exposure, Use in closed batch process (synthesis or formulation), Use in batch and other process (synthesis) where opportunity for exposure arises, Mixing or blending in batch processes for formulation of products and/or significant contact), Calendering operations and articles (multistage), Industrial spraying, Transfer of substance or preparation into vessels/ large containers at dedicated facilities, small containers (dedicated filling line, including industrial spraying, Treatment of articles preparations or articles by tableting, compression, reagent, Using material as fuel sources, limited expected, Lubrication at high energy conditions and high energy conditions, Hand-mixing with intimate contact and pressure transfer fluids in dispersive, professional use but closed contact and only PPE available, Heat systems, High (mechanical) energy work-up of substances bound in materials and/or articles, Handling of solid inorganic substances at ambient temperature

Product characteristics

Concentration of the Substance in Mixture/Article

: Covers the percentage of the substance in the product up to 100% (unless stated differently).

Technical conditions and measures

Ensure adequate ventilation, especially in confined areas. Avoid temperatures above 200°C.

Organizational measures to prevent/limit releases, dispersion and exposure

Do not eat, drink or smoke when using this product. Avoid skin contact. Remove and wash contaminated clothing before re-use.

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

Breathing apparatus only if aerosol or dust is formed.

Rubber gloves

Face-shield

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Boots

Chemical resistant apron

Long-sleeved clothing

Notes

Local effects

Risk Management Measures are based on qualitative risk characterization.

3. Exposure estimation and reference to its source

Environment

Contributing Scenario	Exposure Assessment Method	Specific conditions	Compartment Value		Level of Exposure	RCR
	Qualitative approach used to conclude safe use.		All compartments			

Remarks: Environmental exposure assessment for this scenario is not relevant.
No hazard to the environment.

Workers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value	Level of Exposure	RCR
All PROCs Qualitative approach used to conclude safe use.					

All PROCs : All PROCs mentioned in section 1.

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

The immediate downstream user is required to evaluate

whether the operational conditions and risk management measures described in the exposure scenario fit to his use.

If other OC/RMM are adopted, the user should ensure that risks are managed to at least equivalent levels.

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1. Short title of Exposure Scenario: (Ref.: 5) Industrial manufacturing with subsequent relevant service life

Main User Groups : SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites

Sectors of end-use : SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites

Chemical product category : PC9a: Coatings and paints, thinners, paint removers
PC9b: Fillers, putties, plasters, modeling clay
PC9c: Finger paints
PC35: Washing and cleaning products (including solvent based products)

Process categories : PROC5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact)

PROC7: Industrial spraying
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

PROC10: Roller application or brushing
PROC11: Non industrial spraying

Article categories : AC1: Vehicles

Environmental Release Categories: ERC4: Industrial use of processing aids in processes and products, not becoming part of articles
ERC5: Industrial use resulting in inclusion into or onto a matrix

2.1 Contributing scenario controlling environmental use of processing aids in processes and products, n trial use resulting in inclusion into or onto a matrix exposure for: ERC4, ERC5: Industrial ot becoming part of articles, Indus-

Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100% (unless stated differently).

Amount used

EU tonnage : 58000 t/a

Technical conditions and measures / Organizational measures

Remarks : No RMMs applicable. No hazard to the environment. Environmental exposure assessment for this scenario is not relevant.

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2.2 Contributing scenario controlling worker exposure for: PROC5, PROC7, PROC8a, PROC8b, PROC10, PROC11: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact), Industrial spraying, Transfer of substance or preparation (charging/dis charging) from/ to vessels/ large containers at non-dedicated facilities, Transfer of substance or preparation (charging/ dis-charging) from/ to vessels/ large containers at dedicated facilities, Roller application or brushing, Non-industrial spraying

Product (article) characteristic

Remarks

: Covers the percentage of the substance in the product up to 100% (unless stated differently).

Technical conditions and measures

Ensure adequate ventilation, especially in confined areas. Avoid temperatures above 200°C.

Organizational measures to prevent/limit releases,

dispersion and exposure

Do not eat, drink or smoke when using this product. Avoid skin contact. Remove and wash contaminated clothing before re-use.

Conditions and measures related to personal protection

ion, hygiene and health evaluation

Breathing apparatus only if aerosol or dust is formed.

Rubber gloves

Face-shield

Boots

Chemical resistant apron Long

sleeved clothing

Notes

Local effects

Risk Management Measures are based on qualitative risk characterization.

3. Exposure estimation and reference to its source

Environment

Contributing Scenario	Exposure Assessment Method	Specific conditions	Compartment Value		Level of Exposure	RCR
	Qualitative approach used		All compartments			

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	to conclude safe use.					
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Remarks: Environmental exposure assessment for this scenario is not relevant.
No hazard to the environment.

Workers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value	Level of Expo- sure	RCR
All PROCs Qualitative approach used to conclude safe use.					

All PROCs : All PROCs mentioned in section 1.

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

The immediate downstream user is required to evaluate

whether the operational conditions and risk management measures described in the exposure scenario fit to his use.

If other OC/RMM are adopted, the user should ensure that risks are managed to at least equivalent levels.

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1. Short title of Exposure Scenario: (Ref.: 6) Manufacture of pulp, paper and paper products

Main User Groups : SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites

Sectors of end-use : SU6b: Manufacture of pulp, paper and paper products

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

Environmental Release Categories : ERC1: Manufacture of substances

2.1 Contributing scenario controlling environmental substances exposure for: ERC1: Manufacture of

Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100% (unless stated differently).

Amount used

EU tonnage : 58000 t/a

Technical conditions and measures / Organizational measures

Remarks : No RMMs applicable. No hazard to the environment. Environmental exposure assessment for this scenario is not relevant.

2.2 Contributing scenario controlling worker exposure re for: PROC4: Use in batch and other-re arises (synthesis) where opportunity for exposu

Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100% (unless stated differently).

Technical conditions and measures

Ensure adequate ventilation, especially in confined areas. Avoid temperatures above 200°C.

Organizational measures to prevent/limit releases, dispersion and exposure

Do not eat, drink or smoke when using this product. Avoid skin contact. Remove and wash contaminated

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clothing before re-use.

Conditions and measures related to personal protection

ion, hygiene and health evaluation

Breathing apparatus only if aerosol or dust is formed.

Rubber gloves

Face-shield

Boots

Chemical resistant apron Long

sleeved clothing

Notes

Local effects

Risk Management Measures are based on qualitative risk characterization.

3. Exposure estimation and reference to its source

Environment

Contributing Scenario	Exposure Assessment Method	Specific conditions	Compartment Value		Level of Exposure	RCR
	Qualitative approach used to conclude safe use.		All compartments			

Remarks: Environmental exposure assessment for this scenario is not relevant.
No hazard to the environment.

Workers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value	Level of Exposure	RCR
All PROCs Qual	tative approach used to conclude safe use.				

All PROCs : All PROCs mentioned in section 1.

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

The immediate downstream user is required to evaluate

whether the operational conditions and risk management measures described in the exposure scenario fit to his use.

If other OC/RMM are adopted, the user should ensure that risks are managed to at least equivalent levels.

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1. Short title of Exposure Scenario: (Ref.: 7) Manufacture of bulk, large scale chemicals (including petroleum products)

Main User Groups	: SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites
Sectors of end-use	: SU8: Manufacture of bulk, large scale chemicals (including petroleum products) SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites
Chemical product category	: PC9a: Coatings and paints, thinners, paint removers PC15: Non-metal surface treatment products PC19: Intermediate PC20: Products such as pH-regulators, flocculants, precipitants, neutralization agents PC21: Laboratory chemicals PC35: Washing and cleaning products (including solvent based products)
Process categories	: 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) PROC15: Use as laboratory reagent
Environmental Release Categories : ERC2: Formulation of preparations	ERC4: Industrial use of processing aids in processes and products, not becoming part of articles ERC6a: Industrial use resulting in manufacture of another substance (use of intermediates) ERC6b: Industrial use of reactive processing aids ERC9a: Wide dispersive indoor use of substances in closed systems

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2.1 Contributing scenario controlling environmental exposure for: ERC2, ERC4, ERC6a, ERC6b, ERC9a: Formulation of preparations, Industrial use of processing aids in processes and products, not becoming part of articles, Industrial use resulting in manufacture of another substance (use of intermediates), Industrial use of reactive processing aids, Wide dispersive indoor use of substances in closed systems

Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100% (unless stated differently).

Amount used

EU tonnage : 58000 t/a

Technical conditions and measures / Organizational measures

Remarks : No RMMs applicable. No hazard to the environment. Environmental exposure assessment for this scenario is not relevant.

2.2 Contributing scenario controlling worker exposure re for: PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC9, PROC15: Use in closed batch process (synthesis or formulation), Use in batch and other process (synthesis) where opportunity for exposure arises, Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/ or significant contact), Transfer of substance or preparation (charging/ dis-charging) from/ to vessels/ large containers at non-dedicated facilities, Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities, Transfer of substance or preparation into small containers (dedicated fill-ing line, including weighing), Use as laboratory reagent

Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100% (unless stated differently).

Technical conditions and measures

Ensure adequate ventilation, especially in confined areas. Avoid temperatures above 200°C.

Organizational measures to prevent/limit releases, dispersion and exposure

Do not eat, drink or smoke when using this product. Avoid skin contact. Remove and wash contaminated clothing before re-use.

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

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Breathing apparatus only if aerosol or dust is formed.

Rubber gloves

Face-shield

Boots

Chemical resistant apron Long

sleeved clothing

Notes

Local effects

Risk Management Measures are based on qualitative risk characterization.

3. Exposure estimation and reference to its source

Environment

Contributing Scenario	Exposure Assessment Method	Specific conditions	Compartment Value		Level of Exposure	RCR
	Qualitative approach used to conclude safe use.		All compartments			

Remarks: Environmental exposure assessment for this scenario is not relevant.
No hazard to the environment.

Workers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value	Level of Exposure	RCR
All PROCs Qual	tative approach used to conclude safe use.				

All PROCs : All PROCs mentioned in section 1.

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

The immediate downstream user is required to evaluate

whether the operational conditions and risk management measures described in the exposure scenario fit to his use.

If other OC/RMM are adopted, the user should ensure that risks are managed to at least equivalent levels.

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1. Short title of Exposure Scenario: (Ref.: 8) Manufacture of fine chemicals

Main User Groups	: SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites
Sectors of end-use	: SU9: Manufacture of fine chemicals SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites
Chemical product category	: PC9a: Coatings and paints, thinners, paint removers PC15: Non-metal surface treatment products PC19: Intermediate PC20: Products such as pH-regulators, flocculants, precipitants, neutralization agents PC21: Laboratory chemicals PC35: Washing and cleaning products (including solvent based products) PC37: Water treatment chemicals
Process categories	: PROC1: Use in closed process, no likelihood of exposure PROC2: Use in closed, continuous process with occasional controlled exposure PROC3: Use in closed batch process (synthesis or formula-tion) 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) PROC6: Calendering operations 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) PROC15: Use as laboratory reagent PROC21: Low energy manipulation of substances bound in materials and/or articles PROC26: Handling of solid inorganic substances at ambient temperature
Environmental Release Categories : ERC2: Formulation of preparations	ERC4: Industrial use of processing aids in processes and products, not becoming part of articles ERC6a: Industrial use resulting in manufacture of another substance (use of intermediates) ERC6b: Industrial use of reactive processing aids ERC6d: Industrial use of process regulators for polymerisation processes in production of resins, rubbers, polymers ERC9a: Wide dispersive indoor use of substances in closed systems

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2.1 Contributing scenario controlling environmental exposure for: ERC2, ERC4, ERC6a, ERC6b, ERC6d, ERC9a: Formulation of preparations, Industrial use of processing aids in processes and products, not becoming part of articles, Industrial use resulting in manu-facture of another substance (use of intermediates)

Industrial use of process regulators for poly resins, rubbers, polymers, Wide dispersive indoor u
Industrial use of reactive processing aids, merisation processes in production of se of substances in closed systems

Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100% (unless stated differently).

Amount used

EU tonnage : 58000 t/a

Technical conditions and measures / Organizational measures

Remarks : No RMMs applicable. No hazard to the environment. Environmental exposure assessment for this scenario is not relevant.

2.2 Contributing scenario controlling worker exposure PROC4, re for: PROC1, PROC2, PROC3, PROC5, PROC6, PROC8a, PROC8b, PROC9, PROC15, PROC21, PROC26: Use in closed process, no likelihood of exposure, Use in c lost, continuous process with occa-sional controlled exposure, Use in closed batch process (synthesis or formulation), Use in batch and other process (synthesis) where opportunity unity for exposure arises, Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact), Calendering operations , Tr ansfer of substance or preparation (charging/ discharging) from/ to vessels/ large con-tainers at non-dedicated facilities, Transfer of substance or preparation (charging/ dis charging) from/ to vessels/ large con-tainers at dedicated facilities, Transfer of substance or preparation into small containers (dedicated filling line, including weighing), Use as laboratory reagent, Low energy manipulation of substances bound in materials and/or articles, Handling of solid inorganic substances at ambient temperature

Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100% (unless stated differently).

Technical conditions and measures

Ensure adequate ventilation, especially in confined areas. Avoid temperatures above 200°C.

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Organizational measures to prevent/limit releases, dispersion and exposure
Do not eat, drink or smoke when using this product. Avoid skin contact. Remove and wash contaminated clothing before re-use.

Conditions and measures related to personal protection ion, hygiene and health evaluation
Breathing apparatus only if aerosol or dust is formed.
Rubber gloves
Face-shield
Boots
Chemical resistant apron Long
sleeved clothing

Notes

Local effects
Risk Management Measures are based on qualitative risk characterization.

3. Exposure estimation and reference to its source

Environment

Contributing Scenario	Exposure Assessment Method	Specific conditions	Compartment Value		Level of Exposure	RCR
	Qualitative approach used to conclude safe use.		All compartments			
Remarks: Environmental exposure assessment for this scenario is not relevant. No hazard to the environment.						

Workers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value	Level of Exposure	RCR
All PROCs Qual	tative approach used to conclude safe use.				

All PROCs : All PROCs mentioned in section 1.

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

The immediate downstream user is required to evaluate

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whether the operational conditions and risk management measures described in the exposure scenario fit its use.

If other OC/RMM are adopted, the user should ensure that risks are managed to at least equivalent levels.

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1. Short title of Exposure Scenario: (Ref.: 9) Manufacture of plastics products, including compounding and conversion

Main User Groups : SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites

Sectors of end-use : SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites

Chemical product category : PC32: Polymer preparations and compounds

Process categories : PROC5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact)

Article categories : AC13: Plastic articles

Environmental Release Categories : ERC6c: Industrial use of monomers for manufacture of thermoplastics

2.1 Contributing scenario controlling environmental of exposure for: ERC6c: Industrial use monomers for manufacture of thermoplastics

Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100% (unless stated differently).

Amount used

EU tonnage : 58000 t/a

Technical conditions and measures / Organizational measures

Remarks : No RMMs applicable. No hazard to the environment. Environmental exposure assessment for this scenario is not relevant.

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

Product (article) characteristic

Remarks : Covers the percentage of the substance in the product up to 100% (unless stated differently).

Technical conditions and measures

Ensure adequate ventilation, especially in confined areas. Avoid temperatures above 200°C.

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Organizational measures to prevent/limit releases, dispersion and exposure
Do not eat, drink or smoke when using this product. Avoid skin contact. Remove and wash contaminated clothing before re-use.

Conditions and measures related to personal protection ion, hygiene and health evaluation
Breathing apparatus only if aerosol or dust is formed.
Rubber gloves
Face-shield
Boots
Chemical resistant apron Long sleeved clothing

Notes

Local effects
Risk Management Measures are based on qualitative risk characterization.

3. Exposure estimation and reference to its source

Environment

Contributing Scenario	Exposure Assessment Method	Specific conditions	Compartment Value		Level of Exposure	RCR
	Qualitative approach used to conclude safe use.		All compartments			

Remarks: Environmental exposure assessment for this scenario is not relevant.
No hazard to the environment.

Workers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value	Level of Exposure	RCR
All PROCs Qualitative approach used to conclude safe use.					

All PROCs : All PROCs mentioned in section 1.

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

The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit his use.

If other OC/RMM are adopted, the user should ensure that risks are managed to at least equivalent levels.

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1. Short title of Exposure Scenario: (Ref.: 10) Building and construction work

Main User Groups : SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites

Sectors of end-use : SU19: Building and construction work

Chemical product category : PC0: Other: building and construction preparations

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

Environmental Release Categories : ERC5: Industrial use resulting in inclusion into or onto a matrix

2.1 Contributing scenario controlling environmental resulting in exposure for: ERC5: Industrial use inclusion into or onto a matrix

Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100% (unless stated differently).

Amount used

EU tonnage : 58000 t/a

Technical conditions and measures / Organizational measures

Remarks : No RMMs applicable. No hazard to the environment. Environmental exposure assessment for this scenario is not relevant.

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

Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100% (unless stated differently).

Technical conditions and measures

Ensure adequate ventilation, especially in confined areas. Avoid temperatures above 200°C.

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Organizational measures to prevent/limit releases, dispersion and exposure
Do not eat, drink or smoke when using this product. Avoid skin contact. Remove and wash contaminated clothing before re-use.

Conditions and measures related to personal protection ion, hygiene and health evaluation
Breathing apparatus only if aerosol or dust is formed.
Rubber gloves
Face-shield
Boots
Chemical resistant apron Long
sleeved clothing

Notes

Local effects
Risk Management Measures are based on qualitative risk characterization.

3. Exposure estimation and reference to its source

Environment

Contributing Scenario	Exposure Assessment Method	Specific conditions	Compartment Value		Level of Exposure	RCR
	Qualitative approach used to conclude safe use.		All compartments			
Remarks: Environmental exposure assessment for this scenario is not relevant. No hazard to the environment.						

Workers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value	Level of Exposure	RCR
All PROCs	Qualitative approach used to conclude safe use.				

All PROCs : All PROCs mentioned in section 1.

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

The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit his use.
If other OC/RMM are adopted, the user should ensure that risks are managed to at least equivalent levels.

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1. Short title of Exposure Scenario: (Ref.: 11) Health services

Main User Groups	: SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Sectors of end-use	: SU20: Health services
Chemical product category	: PC19: Intermediate PC21: Laboratory chemicals
Process categories	: PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing) PROC15: Use as laboratory reagent

2.2 Contributing scenario controlling worker exposure to substance or preparation into small containers (used as laboratory reagent) re for: PROC9, PROC15: Transfer of icated filling line, including weighing),

Product characteristics

Concentration of the Substance in Mixture/Article	: Covers the percentage of the substance in the product up to 100% (unless stated differently).
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Technical conditions and measures

Ensure adequate ventilation, especially in confined areas. Avoid temperatures above 200°C.

Organizational measures to prevent/limit releases, dispersion and exposure

Do not eat, drink or smoke when using this product. Avoid skin contact. Remove and wash contaminated clothing before re-use.

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

Breathing apparatus only if aerosol or dust is formed.

Rubber gloves

Face-shield

Boots

Chemical resistant apron Long sleeved clothing

Notes

Local effects

Risk Management Measures are based on qualitative risk characterization.

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3. Exposure estimation and reference to its source

Workers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value	Level of Exposure	RCR
All PROCs Qualitative approach used to conclude safe use.					

All PROCs : All PROCs mentioned in section 1.

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

The immediate downstream user is required to evaluate

whether the operational conditions and risk management measures described in the exposure scenario fit to his use.

If other OC/RMM are adopted, the user should ensure that risks are managed to at least equivalent levels.

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1. Short title of Exposure Scenario: (Ref.: 12) Formulation of preparations and/or re-packaging, without relevant subsequent service life

Main User Groups	: SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites
Sectors of end-use	: SU 10: Formulation [mixing] of preparations and/or re-packaging (excluding alloys) SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Chemical product category	: PC4: Anti-Freeze and de-icing products PC8: Biocidal products (eg Disinfectants, pest control) PC9a: Coatings and paints, thinners, paint removers PC14: Metal surface treatment products, including galvanic and electroplating products PC15: Non-metal surface treatment products PC17: Hydraulic fluids PC19: Intermediate PC20: Products such as pH-regulators, flocculants, precipitants, neutralization agents PC21: Laboratory chemicals PC24: Lubricants, greases, release products PC25: Metal working fluids PC28: Perfumes, fragrances PC29: Pharmaceuticals PC31: Polishes and wax blends PC35: Washing and cleaning products (including solvent based products) PC37: Water treatment chemicals PC38: Welding and soldering products (with flux coatings or flux cores.), flux products PC39: Cosmetics, personal care products
Process categories	: PROC1: Use in closed process, no likelihood of exposure PROC2: Use in closed, continuous process with occasional controlled exposure PROC3: Use in closed batch process (synthesis or formula-tion) 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) PROC7: Industrial spraying 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 con-

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ainers (dedicated filling line, including weighing)
PROC10: Roller application or brushing
PROC11: Non industrial spraying
PROC14: Production of preparations or articles by tableting, compression, extrusion, pelletisation
PROC15: Use as laboratory reagent
PROC18: Greasing at high energy conditions
PROC19: Hand-mixing with intimate contact and only PPE available

PROC26: Handling of solid inorganic substances at ambient temperature

Environmental Release Categories : ERC2: Formulation of preparations

ERC4: Industrial use of processing aids in processes and products, not becoming part of articles
ERC5: Industrial use resulting in inclusion into or onto a matrix
ERC6a: Industrial use resulting in manufacture of another substance (use of intermediates)
ERC6b: Industrial use of reactive processing aids
ERC7: Industrial use of substances in closed systems
ERC8a: Wide dispersive indoor use of processing aids in open systems
ERC9a: Wide dispersive indoor use of substances in closed systems

2.1 Contributing scenario controlling environmental exposure for: ERC2, ERC4, ERC5, ERC6a, ERC6b, ERC7, ERC8a, ERC9a: Formulation of preparations, Industrial use of processing aids in processes and products, not becoming part of articles, Industrial use resulting in inclusion into or onto a matrix, Industrial use resulting in manufacture of another substance (use of intermediates), Industrial use of reactive processing aids, Industrial use of substances in closed systems, Wide dispersive indoor use of processing aids in open systems, Wide dispersive indoor use of substances in closed systems

Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100% (unless stated differently).

Amount used

EU tonnage : 58000 t/a

Technical conditions and measures / Organizational measures

Remarks : No RMMs applicable. No hazard to the environment. Environmental exposure assessment for this scenario is not relevant.

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2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC3, PROC4, PROC5, PROC7, PROC8a, PROC8b, PROC9, PROC10, PROC11, PROC14, PROC15, PROC18, PROC19, PROC26: Use in closed processes, no likelihood of exposure, Use in closed, continuous process with occasional controlled exposure, Use in closed batch process (synthesis or formulation), Use in batch and other process (synthesis) where opportunity for exposure arises, Mixing or blending in batch processes for formulation of preparations and articles (multistage and / or significant contact), Industrial spraying, Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities, Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large container substance or preparation into small containers (ded Roller with at dedicated facilities, Transfer of application or brushing, Non industrial spraying, icated filling line, including weighing), Production of preparations or articles by tableting, compression, extrusion, pelletisation, Use as laboratory reagent, Greasing at high energy conditions, Hand-mixing with intimate contact and only PPE available, Handling of solid inorganic substances at ambient temperature

Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100% (unless stated differently).

Technical conditions and measures

Ensure adequate ventilation, especially in confined areas. Avoid temperatures above 200°C.

Organizational measures to prevent/limit releases, dispersion and exposure

Do not eat, drink or smoke when using this product. Avoid skin contact. Remove and wash contaminated clothing before re-use.

Conditions and measures related to personal protection Breathing apparatus only if aerosol or dust is formed. ion, hygiene and health evaluation

Rubber gloves

Face-shield

Boots

Chemical resistant apron Long sleeved clothing

Notes

Local effects

Risk Management Measures are based on qualitative risk characterization.

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3. Exposure estimation and reference to its source

Environment

Contributing Scenario	Exposure Assessment Method	Specific conditions	Compartment Value		Level of Exposure	RCR
	Qualitative approach used to conclude safe use.		All compartments			

Remarks: Environmental exposure assessment for this scenario is not relevant.
No hazard to the environment.

Workers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value	Level of Exposure	RCR
All PROCs Qualitative approach used to conclude safe use.					

All PROCs : All PROCs mentioned in section 1.

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

The immediate downstream user is required to evaluate

whether the operational conditions and risk management measures described in the exposure scenario fit to his use.

If other OC/RMM are adopted, the user should ensure that risks are managed to at least equivalent levels.

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1. Short title of Exposure Scenario: (Ref.: 13) Formulation of preparations and/or re-packaging, with relevant subsequent service life

Main User Groups	: SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites
Sectors of end-use	: SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites SU 10: Formulation [mixing] of preparations and/or re-packaging (excluding alloys) SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Chemical product category	: PC9a: Coatings and paints, thinners, paint removers PC9c: Finger paints PC9b: Fillers, putties, plasters, modeling clay PC35: Washing and cleaning products (including solvent based products)
Process categories	: PROC5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact) PROC7: Industrial spraying 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 PROC10: Roller application or brushing PROC11: Non industrial spraying
Article categories	: AC1: Vehicles
Environmental Release Categories:	ERC4: Industrial use of processing aids in processes and products, not becoming part of articles ERC5: Industrial use resulting in inclusion into or onto a matrix

2.1 Contributing scenario controlling environmental use of processing aids in processes and products, n

exposure for: ERC4, ERC5: Industrial ot becoming part of articles, Indus-

Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100% (unless stated differently).

Amount used

EU tonnage : 58000 t/a

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Technical conditions and measures / Organizational measures

Remarks

: No RMMS applicable. No hazard to the environment. Environmental exposure assessment for this scenario is not relevant.

2.2 Contributing scenario controlling worker exposure for: PROC5, PROC7, PROC8a, PROC8b, PROC10, PROC11: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact), Industrial spraying, Transfer of substance or preparation (charging/dis charging) from/ to vessels/ large containers at non-dedicated facilities, Transfer of substance or preparation (charging/ dis-charging) from/ to vessels/ large containers at dedicated facilities, Roller application or brushing, Non-industrial spraying

Product (article) characteristic

Remarks

: Covers the percentage of the substance in the product up to 100% (unless stated differently).

Technical conditions and measures

Ensure adequate ventilation, especially in confined areas. Avoid temperatures above 200°C.

Organizational measures to prevent/limit releases, dispersion and exposure

Do not eat, drink or smoke when using this product. Avoid skin contact. Remove and wash contaminated clothing before re-use.

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

Breathing apparatus only if aerosol or dust is formed.

Rubber gloves

Face-shield

Boots

Chemical resistant apron

Long sleeved clothing

Notes

Local effects

Risk Management Measures are based on qualitative risk characterization.

3. Exposure estimation and reference to its source

Environment

Contributing	Exposure As-Specific Compartment Value		Level of	RCR

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Scenario	Assessment Method	Conditions			Exposure	
	Qualitative approach used to conclude safe use.		All compartments			

Remarks: Environmental exposure assessment for this scenario is not relevant.
No hazard to the environment.

Workers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value	Level of Exposure	RCR
All PROCs Qualitative approach used to conclude safe use.					

All PROCs : All PROCs mentioned in section 1.

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

The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use.

If other OC/RMM are adopted, the user should ensure that risks are managed to at least equivalent levels.

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1. Short title of Exposure Scenario: (Ref.: 14) Manufacture of food products, without relevant subsequent service life

Main User Groups : SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites

Sectors of end-use : SU4: Manufacture of food products

Chemical product category : PC0: Other: not specified
PC2: Adsorbents
PC20: Products such as pH-regulators, flocculants, precipitants, neutralization agents
PC36: Water softeners
PC37: Water treatment chemicals

Process categories : 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)
PROC0: Other Process or activity

Environmental Release Categories : ERC2: Formulation of preparations
ERC5: Industrial use resulting in inclusion into or onto a matrix
ERC6a: Industrial use resulting in manufacture of another substance (use of intermediates)

2.1 Contributing scenario controlling environmental exposure for: ERC2, ERC5, ERC6a:
Formulation of preparations, Industrial use resulting in inclusion into or onto a matrix,
in Industrial use resulting in manufacture of another substance (use of intermediates)

Product characteristics
Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100% (unless stated differently).

Amount used
EU tonnage : 58000 t/a

Technical conditions and measures / Organizational measures
Remarks : No RMMs applicable. No hazard to the environment. Environmental exposure assessment for this scenario is not relevant.

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2.2 Contributing scenario controlling worker exposure for: PROC0, PROC3, PROC4, PROC5: Other Process or activity, Use in closed batch process (synthesis or formula-tion), Use in batch and other process (synthesis) where opportunity for exposure arises, Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact)

Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100% (unless stated differently).

Technical conditions and measures

Ensure adequate ventilation, especially in confined areas. Avoid temperatures above 200°C.

Organizational measures to prevent/limit releases, dispersion and exposure

Do not eat, drink or smoke when using this product. Avoid skin contact. Remove and wash contaminated clothing before re-use.

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

Breathing apparatus only if aerosol or dust is formed.

Rubber gloves

Face-shield

Boots

Chemical resistant apron Long sleeved clothing

Notes

Local effects

Risk Management Measures are based on qualitative risk characterization.

3. Exposure estimation and reference to its source

Environment

Contributing Scenario	Exposure Assessment Method	Specific conditions	Compartment Value		Level of Exposure	RCR
	Qualitative approach used to conclude safe use.		All compartments			

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Remarks: Environmental exposure assessment for this scenario is not relevant.
No hazard to the environment.

Workers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value	Level of Exposure	RCR
All PROCs Qualitative approach used to conclude safe use.					

All PROCs : All PROCs mentioned in section 1.

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

The immediate downstream user is required to evaluate

whether the operational conditions and risk management measures described in the exposure scenario fit to his use.

If other OC/RMM are adopted, the user should ensure that risks are managed to at least equivalent levels.

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1. Short title of Exposure Scenario: (Ref.: 15) Manufacture of food products, with relevant subsequent service life

Main User Groups : SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites

Sectors of end-use : SU4: Manufacture of food products

Chemical product category : PC0: Other: not specified

Process categories : PROC5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact)

Article categories : AC 0: Other Articles

Environmental Release Categories : ERC3: Formulation in materials

2.1 Contributing scenario controlling environmental materials exposure for: ERC3: Formulation in

Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100% (unless stated differently).

Amount used

EU tonnage : 58000 t/a

Technical conditions and measures / Organizational measures

Remarks : No RMMs applicable. No hazard to the environment. Environmental exposure assessment for this scenario is not relevant.

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

Product (article) characteristic

Remarks : Covers the percentage of the substance in the product up to 100% (unless stated differently).

Technical conditions and measures

Ensure adequate ventilation, especially in confined areas. Avoid temperatures above 200°C.

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Organizational measures to prevent/limit releases, dispersion and exposure
Do not eat, drink or smoke when using this product. Avoid skin contact. Remove and wash contaminated clothing before re-use.

Conditions and measures related to personal protection ion, hygiene and health evaluation
Breathing apparatus only if aerosol or dust is formed.
Rubber gloves
Face-shield
Boots
Chemical resistant apron Long
sleeved clothing

Notes

Local effects
Risk Management Measures are based on qualitative risk characterization.

3. Exposure estimation and reference to its source

Environment

Contributing Scenario	Exposure Assessment Method	Specific conditions	Compartment Value		Level of Exposure	RCR
	Qualitative approach used to conclude safe use.		All compartments			
Remarks: Environmental exposure assessment for this scenario is not relevant. No hazard to the environment.						

Workers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value	Level of Exposure	RCR
All PROCs Qual	tative approach used to conclude safe use.				

All PROCs : All PROCs mentioned in section 1.

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

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The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit his use.

If other OC/RMM are adopted, the user should ensure that risks are managed to at least equivalent levels.

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1. Short title of Exposure Scenario: (Ref.: 16) Public domain, without relevant subsequent service life

Main User Groups	: SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Sectors of end-use	: SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Chemical product category	: PC12: Fertilizers PC19: Intermediate PC21: Laboratory chemicals PC24: Lubricants, greases, release products PC25: Metal working fluids PC31: Polishes and wax blends PC34: Textile dyes, finishing and impregnating products; in-cluding bleaches and other processing aids PC35: Washing and cleaning products (including solvent based products) PC39: Cosmetics, personal care products
Process categories	: PROC1: Use in closed process, no likelihood of exposure PROC2: Use in closed, continuous process with occasional controlled exposure PROC3: Use in closed batch process (synthesis or formula-tion) 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) PROC7: Industrial spraying PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing) PROC10: Roller application or brushing PROC11: Non industrial spraying PROC13: Treatment of articles by dipping and pouring PROC14: Production of preparations or articles by tableting, compression, extrusion, pelletisation PROC15: Use as laboratory reagent PROC17: Lubrication at high energy conditions and in part open process PROC19: Hand-mixing with intimate contact and only PPE available PROC20: Heat and pressure transfer fluids in dispersive, professional use but closed systems PROC24: High (mechanical) energy work-up of substances bound in materials and/or articles

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Environmental Release Categories : ERC2: Formulation of preparations

ERC4: Industrial use of processing aids in processes and products, not becoming part of articles

ERC5: Industrial use resulting in inclusion into or onto a matrix

ERC6b: Industrial use of reactive processing aids

ERC7: Industrial use of substances in closed systems

ERC8a: Wide dispersive indoor use of processing aids in open systems

ERC8b: Wide dispersive indoor use of reactive substances in open systems

ERC8d: Wide dispersive outdoor use of processing aids in open systems

ERC8e: Wide dispersive outdoor use of reactive substances in open systems

ERC8f: Wide dispersive outdoor use resulting in inclusion into or onto a matrix

ERC9a: Wide dispersive indoor use of substances in closed systems

ERC9b: Wide dispersive outdoor use of substances in closed systems

2.1 Contributing scenario controlling environmental exposure for: ERC2, ERC4, ERC5, ERC6b, ERC7, ERC8a, ERC8b, ERC8d, ERC8e, ERC8f, ERC 9a, ERC9b: Formulation of preparations, Industrial use of processing aids in processes and products, not becoming part of articles, Industrial use resulting in inclusion into or onto a matrix, Industrial use of reactive processing aids, Industrial use of substances in closed systems, Wide dispersive indoor use of processing aids in open systems, Wide dispersive indoor use of reactive substances in open systems, Wide dispersive outdoor use of processing aids in open systems, Wide dispersive outdoor use of reactive substances in open systems, Wide dispersive outdoor use resulting in inclusion indoor use of substances in closed systems, Wide di in closed into or onto a matrix, Wide dispersive systems persive outdoor use of substances

Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100% (unless stated differently).

Amount used

EU tonnage : 58000 t/a

Technical conditions and measures / Organizational measures

Remarks : No RMMs applicable. No hazard to the environment. Environmental exposure assessment for this scenario is not relevant.

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2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC3, PROC4, PROC5, PROC7, PROC8a, PROC8b, PROC9, PROC10, PROC11, PROC13, PROC14, PROC15, PROC17, PROC19, PROC20, PROC24: Use in closed process, no likelihood of exposure, Use in closed, continuous process with occasional controlled exposure, Use in closed batch process (synthesis or formulation), Use in batch and other process (synthesis) where opportunity for exposure arises, Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact), Industrial spraying, Transfer of substance or preparation (charging/discharging) from/ to vessels/ large containers at non-dedicated facilities, Transfer of substance or preparation (charging/discharging) from/ to vessels/ large containers at dedicated facilities, Transfer of substance or preparation into small containers (dedicated filling line, including weighing), Roller application or brushing Non industrial spraying, Treatment of articles by dipping and pouring, Production of prep compression, extrusion, pelletisation, Use as laboratory conditions and in partly open process, Hand-mi PPE available, Heat and pressure transfer fluids in dispersive, professional use but closed systems, High (mechanical) energy work-up of and/or articles or articles by tableting, atory reagent, Lubrication at high en-xing with intimate contact and only substances bound in materials

Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100% (unless stated differently).

Technical conditions and measures

Ensure adequate ventilation, especially in confined areas. Avoid temperatures above 200°C.

Organizational measures to prevent/limit releases, dispersion and exposure

Do not eat, drink or smoke when using this product. Avoid skin contact. Remove and wash contaminated clothing before re-use.

Conditions and measures related to personal protection Breathing apparatus only if aerosol or dust is formed. ion, hygiene and health evaluation

Rubber gloves

Face-shield

Boots

Chemical resistant apron Long sleeved clothing

Notes

Local effects

Risk Management Measures are based on qualitative risk characterization.

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3. Exposure estimation and reference to its source

Environment

Contributing Scenario	Exposure Assessment Method	Specific conditions	Compartment Value		Level of Exposure	RCR
	Qualitative approach used to conclude safe use.		All compartments			

Remarks: Environmental exposure assessment for this scenario is not relevant.
No hazard to the environment.

Workers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value	Level of Exposure	RCR
All PROCs Qualitative approach used to conclude safe use.					

All PROCs : All PROCs mentioned in section 1.

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

The immediate downstream user is required to evaluate

whether the operational conditions and risk management measures described in the exposure scenario fit to his use.

If other OC/RMM are adopted, the user should ensure that risks are managed to at least equivalent levels.

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1. Short title of Exposure Scenario: (Ref.: 17) Public domain, with relevant subsequent service life

Main User Groups	: SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Sectors of end-use	: SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Process categories	: 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 PROC10: Roller application or brushing PROC11: Non industrial spraying PROC13: Treatment of articles by dipping and pouring PROC16: Using material as fuel sources, limited exposure to unburned product to be expected PROC18: Greasing at high energy conditions PROC19: Hand-mixing with intimate contact and only PPE available PROC20: Heat and pressure transfer fluids in dispersive, professional use but closed systems
Environmental Release Categories	: ERC8a: Wide dispersive indoor use of processing aids in open systems ERC8d: Wide dispersive outdoor use of processing aids in open systems ERC8f: Wide dispersive outdoor use resulting in inclusion into or onto a matrix ERC9a: Wide dispersive indoor use of substances in closed systems ERC9b: Wide dispersive outdoor use of substances in closed systems ERC10b: Wide dispersive outdoor use of long-life articles and materials with high or intended release (including abrasive processing)

2.1 Contributing scenario controlling environmental exposure for: ERC8a, ERC8d, ERC8f, ERC9a, ERC9b, ERC10b: Wide dispersive indoor use of processing aids in open systems, Wide dispersive outdoor use of processing aids in open systems, Wide dispersive outdoor use resulting in inclusion into or onto a matrix, Wide dispersive indoor use of substances in closed systems, Wide dispersive outdoor use of substances in closed systems, Wide dispersive outdoor use of long-life articles and materials with high or intended release (including abrasive processing)

Product characteristics

Concentration of the Substance in Mixture/Article	: Covers the percentage of the substance in the product up to 100% (unless stated differently).
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Amount used

EU tonnage

: 58000 t/a

Technical conditions and measures / Organizational : No RMMs measures

Remarks

applicable. No hazard to the environment. Environmental exposure assessment for this scenario is not relevant.

2.2 Contributing scenario controlling worker exposure for: PROC8a, PROC8b, PROC10, PROC11, PROC13, PROC16, PROC18, PROC19, PROC20: Transfer of substance or preparation (charging/discharging) from/ to vessels/ large containers at non- dedicated facilities, Transfer of substance or preparation (charging/discharging) from/ to vessels/ large containers at dedicated facilities, Roller application or brushing, Non industrial spraying, Treatment of articles by dipping and pouring, Using material as fuel sources , limited exposure to unburned product to be expected, Greasing at high energy conditions, Hand-mixing with intimate contact and only PPE available Heat and pressure transfer fluids in dispersive, professional use but closed systems

Product characteristics

Concentration of the Substance in
Mixture/Article

: Covers the percentage of the substance in the product up to
100% (unless stated differently).

Technical conditions and measures

Ensure adequate ventilation, especially in confined areas. Avoid temperatures above 200°C.

Organizational measures to prevent/limit releases,

dispersion and exposure

Do not eat, drink or smoke when using this product. Avoid skin contact. Remove and wash contaminated clothing before re-use.

Conditions and measures related to personal protection

ion, hygiene and health evaluation

Breathing apparatus only if aerosol or dust is formed.

Rubber gloves

Face-shield

Boots

Chemical resistant apron Long

sleeved clothing

Notes

Local effects

Risk Management Measures are based on qualitative risk characterization.

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3. Exposure estimation and reference to its source

Environment

Contributing Scenario	Exposure Assessment Method	Specific conditions	Compartment Value		Level of Exposure	RCR
	Qualitative approach used to conclude safe use.		All compartments			

Remarks: Environmental exposure assessment for this scenario is not relevant.
No hazard to the environment.

Workers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value	Level of Exposure	RCR
All PROCs Qual	tative approach used to conclude safe use.				

All PROCs : All PROCs mentioned in section 1.

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

The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use.

If other OC/RMM are adopted, the user should ensure that risks are managed to at least equivalent levels.

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1. Short title of Exposure Scenario: (Ref.: 18) Private household, without relevant subsequent service life

Main User Groups : SU 21: Consumer uses: Private households (= general public = consumers)

Sectors of end-use : SU 21: Consumer uses: Private households (= general public = consumers)

Chemical product category : PC1: Adhesives, sealants
PC2: Adsorbents
PC3: Air care products
PC4: Anti-Freeze and de-icing products
PC8: Biocidal products (eg Disinfectants, pest control)
PC9a: Coatings and paints, thinners, paint removers
PC9b: Fillers, putties, plasters, modeling clay
PC9c: Finger paints
PC12: Fertilizers
PC13: Fuels
PC14: Metal surface treatment products, including galvanic and electroplating products
PC15: Non-metal surface treatment products
PC17: Hydraulic fluids
PC20: Products such as pH-regulators, flocculants, precipitants, neutralization agents
PC21: Laboratory chemicals
PC24: Lubricants, greases, release products
PC25: Metal working fluids
PC31: Polishes and wax blends
PC32: Polymer preparations and compounds
PC35: Washing and cleaning products (including solvent based products)
PC39: Cosmetics, personal care products

Environmental Release Categories : ERC1: Manufacture of substances
ERC2: Formulation of preparations
ERC4: Industrial use of processing aids in processes and products, not becoming part of articles
ERC8a: Wide dispersive indoor use of processing aids in open systems
ERC8c: Wide dispersive indoor use resulting in inclusion into or onto a matrix

ERC8d: Wide dispersive outdoor use of processing aids in open systems
ERC9a: Wide dispersive indoor use of substances in closed systems

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2.1 Contributing scenario controlling environmental ERC8a, exposure for: ERC1, ERC2, ERC4, ERC8c, ERC8d, ERC9a: Manufacture of substances, Formulation of preparations, Industrial use of processing aids in processes and products, not becoming part of articles, Wide dispersive indoor use of processing aids in open systems, Wide dispersive indoor use resulting in inclusion into or onto a matrix, Wide dispersive outdoor use of processing aids in open systems, Wide dispersive in door use of substances in closed systems

Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 5% Maximum in consumer products No hazard to the environment. Environmental exposure assessment for this scenario is not relevant.

Amount used

EU tonnage : 58000 t/a

2.2 Contributing scenario controlling consumer expo PC9a, PC9b, sure for: PC1, PC2, PC3, PC4, PC8, PC9c, PC12, PC13, PC14, PC15, PC17, PC20, PC21, PC24, PC25, PC31, PC32, PC35, PC39: Adhesives, sealants, Adsorbents, Air care products, Anti -Freeze and de-icing products, Biocidal products (eg Disinfectants, pest control), Coatings and paints, thinners, paint removers, Fillers, putties, plasters, modeling clay, Finger paints, Fertilizers, Fuels, Metal surface treatment products, including galvanic and electroplating products, Non-metal-surface treatment products, Hydraulic fluids, Products such as pH-regulators, flocculants, precipitants, neutralization agents, Laboratory chemicals, Lubricants, greases, release products, Metal working fluid preparations and compounds, Washing and cleaning products (including solvent based products), Cosmetics, personal care products, Polishes and wax blends, Polymer

Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 5% Maximum in consumer products No health hazard below this concentration.

3. Exposure estimation and reference to its source

Environment

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Contributing Scenario	Exposure Assessment Method	Specific conditions	Compartment Value		Level of Exposure	RCR
	Qualitative approach used to conclude safe use.		All compartments			
Remarks: Environmental exposure assessment for this scenario is not relevant. No hazard to the environment.						

Consumers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value	Level of Exposure	RCR
	Qualitative approach used to conclude safe use.				

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

The immediate downstream user is required to evaluate

whether the operational conditions and risk management measures described in the exposure scenario fit to his use.

If other OC/RMM are adopted, the user should ensure that risks are managed to at least equivalent levels.

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1. Short title of Exposure Scenario: (Ref.: 19) Private household, with relevant subsequent service life

Main User Groups : SU 21: Consumer uses: Private households (= general public
= consumers)

Sectors of end-use : SU 21: Consumer uses: Private households (= general public
= consumers)

Chemical product category : PC1: Adhesives, sealants
PC4: Anti-Freeze and de-icing products
PC8: Biocidal products (eg Disinfectants, pest control)
PC9b: Fillers, putties, plasters, modeling clay
PC9c: Finger paints
PC15: Non-metal surface treatment products
PC20: Products such as pH-regulators, flocculants, precipitants,
neutralization agents
PC24: Lubricants, greases, release products
PC31: Polishes and wax blends
PC35: Washing and cleaning products (including solvent based products)

Article categories : AC02: Other (intended to be released): not specified
AC1: Vehicles
AC2: Machinery, mechanical appliances, electrical/electronic articles

Environmental Release Categories : ERC8a: Wide dispersive indoor use of processing aids in
open systems
ERC8d: Wide dispersive outdoor use of processing aids in open systems
ERC8f: Wide dispersive outdoor use resulting in inclusion into or onto a matrix
ERC9a: Wide dispersive indoor use of substances in closed systems
ERC9b: Wide dispersive outdoor use of substances in closed
systems
ERC10b: Wide dispersive outdoor use of long-life articles and materials with
high or intended release (including abrasive processing)

2.1 Contributing scenario controlling environmental exposure for: ERC8a, ERC8d, ERC8f, ERC9a, ERC9b, ERC10b:
Wide dispersive indoor use of processing aids in open systems, Wide dispersive outdoor use of processing aids in
open systems, Wide dispersive out-door use resulting in inclusion into or onto a matr ix, Wide dispersive indoor
use of sub-use of substances in closed sys-tances in closed systems, Wide dispersive outdoor tems, Wide
cles and materials with high or intend- ed release (including dispersive outdoor use of long-life arti
abrasive processing)

Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to
5% Maximum in consumer products No hazard to the environment.
Environmental exposure assessment for this scenario is not relevant.

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Amount used

EU tonnage

: 58000 t/a

2.2 Contributing scenario controlling consumer exposure for: PC1, PC4, PC8, PC9b, PC9c, PC15, PC20, PC24, PC31, PC35: Adhesives, sealants, Anti-Freeze and de-icing products, Biocidal products (eg Disinfectants, pest control), Fillers, putties, plasters, modeling clay, Finger paints, Non-metal-surface treatment products, Products such as pH-regulators, flocculants, precipitants, neutralization agents, Lubricants, greases, re-release products, Polishes and wax blends, Washing and cleaning products (including solvent based products)

Product (article) characteristic

Concentration of the Substance in
Mixture/Article

: Covers the percentage of the substance in the product up to
5% Maximum in consumer products No health hazard below
this concentration.

3. Exposure estimation and reference to its source

Environment

Contributing Scenario	Exposure Assessment Method	Specific conditions	Compartment Value		Level of Exposure	RCR
	Qualitative approach used to conclude safe use.		All compartments			

Remarks: Environmental exposure assessment for this scenario is not relevant.
No hazard to the environment.

Consumers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value	Level of Exposure	RCR
	Qualitative approach used to conclude safe use.				

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

The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit its use.

If other OC/RMM are adopted, the user should ensure that risks are managed to at least equivalent levels.