Nouryon

SAFETY DATA SHEET according to Regulation (EC) No. 1907/2006

ARMEEN CD

Version 1	Revision Date 12.04.2019		Print Date 08.0	2.2021	DE / EN
	IDENTIFICATION	OF THE SU	IBSTANCE/MIXT	URE AND OF THE	
1.1 Product id	entifier				
Trade nan	ne	: ARMEEN	N CD		
Substance Index-No.	e name	: Amines, : 612-285-0	C12-18-alkyl 00-4		
	egistration Number dentified uses of the			æs advised against	
Use of the Substance		: Specific	use(s):	Refer to attached ex scenario Annex.	posure
1.3 Details of	the supplier of the s	afety data s	heet		
Company		Stenunge	Surface Chemistry e Alle 3 85 Stenungsund	AB	
Telephone Telefax E-mail ado 1.4 Emergenc				.com	
Emergenc number	y telephone		0 00 Kemiakuten, S cy response numbe	SE +31 57 06 79 211 24 h er	ours

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

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Acute	toxicity, 4, H302		
	orrosion, 1B, H314		
	s eye damage, 1, H318		
Specifi	c target organ toxicity - single expos	ure, 3, Respiratory system, H335	
Specifi H373	c target organ toxicity - repeated exp	posure, 2, Liver, Gastrointestinal tract	t, Immune system,
Aspira	tion hazard, 1, H304		
Short-t	erm (acute) aquatic hazard, 1, H400		

Long-term (chronic) aquatic hazard, 1, H410

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Pictogram :		
Signal word :	Danger	
Hazard statements :	H302 H304 H314	Harmful if swallowed. May be fatal if swallowed and enters airways. Causes severe skin burns and eye
	H335 H373	damage. May cause respiratory irritation. May cause damage to organs (Liver, Gastrointestinal tract, Immune system) through prolonged or repeated exposure.
	H410	Very toxic to aquatic life with long lasting effects.
Precautionary statements :	Prevention: P260 P280 Response: P301 + P310	Do not breathe mist, vapours or spray. Wear protective gloves/ protective clothing/ eye protection/ face protection.
	P301 + P310 P301 + P330 + P331	
	P303 + P361 + P353	immediately all contaminated clothing.
	P305 + P351 + P338	Rinse skin with water. + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.

Hazardous components which must be listed on the label:

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Cocoamine			61788-46-3	
2.3 Other h	azards			
No furth	her data available.			
PBT ar	nd vPvB assessment	to ver	is substance/mixture contains no components be either persistent, bioaccumulative and tox y persistent and very bioaccumulative (vPvB) % or higher.	ic (PBT), or

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SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Common Name	: Cocoamine
Pure substance/mixture	: Substance
CAS-No.	: 61788-46-3

Hazardous substance

Chemical name	PBT vPvB OEL	CAS-No. EC-No. REACH No.	Classification (REGULATION (EC) No 1272/2008)	Concentration [%]
Cocoamine		61788-46-3 701-068-0 01-2119473798-17	Acute Tox. 4; H302 Skin Corr. 1B; H314 Eye Dam. 1; H318 STOT SE 3; H335 STOT RE 2; H373 Asp. Tox. 1; H304 Aquatic Acute 1; H400 Aquatic Chronic 1; H410	>= 90 - <= 100
			M-Factor (Chronic): 10	

The following substances have multiple CAS-number

Cocoamine : 68155-27-1

For the full text of the H-Statements mentioned in this Section, see Section 16.

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59). Status : Not applicable

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

General advice	: Immediate medical attention is required. Move out of dangerous area. Show this safety data sheet to the doctor in attendance. Burns may occur several hours after the removal of the product.
If inhaled	: Obtain medical attention immediately. If breathed in, move person into fresh air.
In case of skin contact	 Take off contaminated clothing and shoes immediately. Wash skin immediately with 0,5 % acetic acid in water, and then with soap and water. Immediate medical treatment is necessary as untreated wounds from corrosion of the skin heal slowly and with difficulty. Skin irritation, if untreated may be prolonged and serious (eg necrosis). This may be prevented by early treatment with

In case of ey	e contact	: In case o	strength corticosteroids. f contact with eyes, rinse immediately	
In case of ey	e contact		f contact with over rines immediately	
		away fron Get media transport. Remove o Protect u Keep eye Small am	d in water for a few minutes, followed water for as long as possible. Eyelids in the eyeball to ensure thorough rinsin cal attention immediately. Continue to contact lenses. hharmed eye. wide open while rinsing. ounts splashed into eyes can cause in mage and blindness.	by rinsing with should be held ng. rinse during
If swallowed		Never giv Take victi	buth with water and drink afterwards pl e anything by mouth to an unconsciou m immediately to hospital. duce vomiting! May cause chemical butt.	us person.
4.2 Most importa	nt symptoms and	d effects, bo	th acute and delayed	
Symptoms			ptoms and effects are as expected from in section 2. No specific product relat n.	
Risks		May be fa Causes s May caus May caus exposure	swallowed. tal if swallowed and enters airways. erious eye damage. e respiratory irritation. e damage to organs through prolonge evere burns.	d or repeated
4.3 Indication of	any immediate m	nedical atten	tion and special treatment needed	
Treatment		: Treat syn	nptomatically.	
5.1 Extinguishing		LASURES		
	nguishing media		guishing measures that are appropriat	
Unsuitable ex media	xtinguishing	: High volu	me water jet	
	rds arising from t	he substance	e or mixture	
Specific haza firefighting / s arising from t	Specific hazards	fire. Water spi firefighters	e a solid water stream as it may scatt ray may be ineffective unless used by	experienced
Combustion	products	: Carbon o	xides 5/71	

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		Nitroger	n oxides (NOx)	
5.3 Adv	ice for firefighters			
•	ecial protective equipment firefighters	: In the e	vent of fire, wear self-contained brea	thing apparatus.
Fur	ther information	must no Fire res	contaminated fire extinguishing wate of be discharged into drains. idues and contaminated fire extingui- osed of in accordance with local regu	shing water must

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions	:	Use personal protective equipment. Wear respiratory protection. Ensure adequate ventilation.
Emergency measures on accidental release	:	Evacuate personnel to safe areas. Only qualified personnel equipped with suitable protective equipment may intervene. Prevent unauthorised persons entering the zone.
6.2 Environmental precautions		
Environmental precautions	:	Do not flush into surface water or sanitary sewer system.

6.3 Methods and materials for containment and cleaning up

Methods for cleaning up / Methods for containment	Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).
methods for containment	Keep in suitable, closed containers for disposal.

respective authorities.

If the product contaminates rivers and lakes or drains inform

6.4 Reference to other sections

For disposal considerations see section 13. For personal protection see section 8.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

Advice on safe handling	 For personal protection see section 8. Avoid formation of aerosol. Do not breathe vapours or spray mist. Smoking, eating and drinking should be prohibited in the application area. Dispose of rinse water in accordance with local and national regulations.
Advice on protection against fire and explosion 7.2 Conditions for safe storage, i	: Normal measures for preventive fire protection.

Requirements for storage	: Prevent unauthorized access.
areas and containers	Keep container tightly closed in a dry and well-ventilated

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				ed temperatures. copper, aluminium, zinc and their alloys.	
	German sto	rage class	: Combustible	, corrosive hazardous materials	
	Other data		: No decompo	sition if stored and applied as directed.	
	Specific end				
	Specific use	e(S)	: Refer to atta	ched exposure scenario Annex.	

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006

Substance name	End Use	Exposure routes	Potential health effects	Value
Cocoamine	Workers	Inhalation	Long-term systemic effects	0,38 mg/m3

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006

Substance name	Environmental Compartment	Value
Cocoamine	Fresh w ater	0,00026 mg/l
	Marine water	0,000026 mg/l
	Sew age treatment plant	0,55 mg/l
	Fresh w ater sediment	0,1794 mg/kg
	Marine sediment	0,01794 mg/kg
	Soil	10 mg/kg

8.2 Exposure controls

Engineering controls

Provide eyewash station and safety shower. Keep solutions of 0.5% acetic acid in water close at hand.

Effective exhaust ventilation system

Personal protective equipmen Respiratory protection	 In the case of vapour or aerosol formation use a respirator with an approved filter. Wear full face mask supplied with: Combination filter: ABEKP.
Hand protection	: Nitrile rubber butyl-rubber

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	Eye protect	tion	• •	ng safety goggles shield and protective suit for abr	normal processing
	Skin and bo	ody protection	: Protective	suit	
	Hygiene m	easures	When usin When usin	act with skin, eyes and clothing. g do not eat or drink. g do not smoke. contaminated clothes before reus	se.
I	Environme	ental exposure con	trols		
	General ad	•	: Do not flus	h into surface water or sanitary s ct contaminates rivers and lakes authorities.	

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	
Form	: liquid
Colour	: light yellow
Odour	: ammoniacal
Odour Threshold	: No data available
Safety data	
рН	: No data available
Melting point/range	: 13 - 17 °C
Boiling point/boiling range	: >200 °C
Flash point	: 100 - 199 °C Method: Pensky-Martens ISO 2719
Ignition temperature	: 150 °C
Evaporation rate	: No data available
Flammability (solid, gas)	: Not applicable
Flammability (liquids)	: Not classified as a flammability hazard
Lower explosion limit	: No data available
Upper explosion limit	: No data available
Vapour pressure	: <0,1 hPa at 20 °C
Relative vapour density	: No data available

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Densit	ty	: 800 kg/ı	m3 at 25 °C	
Relativ	ve density	: 0,80 at 2	20 °C	
Water	solubility	: insoluble	e	
Solubi	ility in other solvents	: Soluble	in alcohols and hydrocarbons.	
	on coefficient: n- bl/water	: No data	available	
Auto-i	gnition temperature	: 255 °C		
Decon	nposition temperature	: No data	available	
Visco	sity, dynamic	: 3,83 mF	Pa.s at 20 °C	
Viscos	sity, kinematic	: No data	available	
Explo	sive properties	: Not exp	losive	
Oxidiz	ing properties	: The sub	stance or mixture is not classified as	oxidizing.

9.2 Other information

This safety datasheet only contains information relating to safety and does not replace any product information or product specification.

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity

Stable under normal conditions.

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

No dangerous reaction known under conditions of normal use.

10.4 Conditions to avoid

Conditions to avoid : Extremes of temperature and direct sunlight.

10.5 Incompatible materials

Materials to avoid : Reacts with copper, aluminium, zinc and their alloys.

10.6 Hazardous decomposition products

Hazardous decomposition products	: No hazardous decomposition products are known.

Thermal decomposition : No data available

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SECTION '	11: TOXICOLOGIC	AL INFORM	IATION	
11.1 Informa	ation on toxicologic	al effects		
Product Acute to	t information:	: Harmfu	l if swallowed.	
Skin co	rrosion/irritation	: Causes	s severe burns.	

Serious eye damage/eye irritation	:	Causes serious eye damage.
Respiratory or skin sensitisation	:	Respiratory sensitisation: Not classified based on available information. Skin sensitisation: Not classified based on available information.
Germ cell mutagenicity	:	Not classified based on available information.
Carcinogenicity	:	Not classified based on available information.
Reproductive toxicity	:	Not classified based on available information.
STOT - single exposure	:	May cause respiratory irritation.
STOT - repeated exposure	:	May cause damage to organs (Liver, Gastrointestinal tract, Immune system) through prolonged or repeated exposure.
Aspiration hazard	:	May be fatal if swallowed and enters airways.

Toxicology data for the components: Cocoamine

Acute toxicity:

Acute oral toxicity	:	LD50: > 300 - 2 000 mg/kg Species: Rat Method: OECD Test Guideline 401
Skin corrosion/irritation	:	Species: Rabbit Result: Causes burns. Method: OECD Test Guideline 404
Serious eye damage/eye irritation	:	study scientifically unjustified
Respiratory or skin sensitisation	:	Maximisation Test Species: Guinea pig Result: negative Method: OECD Test Guideline 406
Germ cell mutagenicity		
Genotoxicity in vitro	:	Ames test Result: negative Method: OECD Test Guideline 471

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		In vitro mammalian cell gene mutation test Result: negative Method: OECD Test Guideline 476 Read-across (Analogy)	
		Chromosome aberration test in vitro Result: negative Method: OECD Test Guideline 473 Read-across (Analogy)	
Genoto	oxicity in vivo	: In vivo micronucleus test Species: Rat Method: OECD Test Guideline 474 Result: negative Read-across (Analogy)	
Carcino	ogenicity	: Not classified due to data which are conclusive although insufficient for classification.	
Reprod	luctive toxicity	: Not classified due to data which are conclusive although insufficient for classification.	
STOT ·	- single exposure	: May cause respiratory irritation.	
STOT ·	- repeated exposure	: Target Organs: Gastrointestinal tract, Liver, Immune sys May cause damage to organs through prolonged or repe exposure.	
Aspirat	ion hazard	: May be fatal if swallowed and enters airways.	

SECTION 12: ECOLOGICAL INFORMATION

Product information: Ecotoxicology Assessment Additional ecological information	: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Very toxic to aquatic life with long lasting effects.
12.1 Toxicity	
Components: Test result Cocoamine Toxicity to fish	: LC50: > 0,01 - 0,1 mg/l Exposure time: 96 h Species: Pimephales promelas (fathead minnow)
	Method: OECD Test Guideline 203 Read-across (Analogy)
Toxicity to daphnia and other aquatic invertebrates	: EC50: > 0,01 - 0,1 mg/l Exposure time: 48 h Species: Daphnia magna (Water flea) Method: OECD Test Guideline 202
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	Read-ad	cross (Analogy)	
Toxicity to algae	Exposu Species	> 0,01 - 0,1 mg/l re time: 72 h s: Scenedesmus subspicatus (algae) : OECD Test Guideline 201	
M-Factor (Acute)	: 10		
M-Factor (Chronic)	: 10		
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	Exposu Species	> 0,01 - 0,1 mg/l re time: 21 d s: Daphnia magna (Water flea) : OECD Test Guideline 211	
12.2 Persistence and degradabil	ity		
Product information	: No infor	mation available.	
Components: Cocoamine Biodegradability		Readily biodegradable. : OECD Test Guideline 301D	
12.3 Bioaccumulative potential			
Product information	: No infor	mation available.	
Components: Cocoamine Bioaccumulation	: Biocono	centration factor (BCF): > 500	
12.4 Mobility in soil			
Product information	: No infor	mation available.	
Components: Cocoamine Mobility	: Can be	leached out from soil.	
12.5 Results of PBT and vPvB as	ssessment		
Product information: PBT and vPvB assessment	to be ei	bstance/mixture contains no components ther persistent, bioaccumulative and toxic rsistent and very bioaccumulative (vPvB) higher.	e (PBT), or
Components:			
Cocoamine PBT and vPvB assessment	Bioaccu This su	bstance is not considered to be a PBT (Paunulation, Toxic) bstance is not considered to be vPvB (ver bistance bis not considered to be vPvB (ver	
12.6 Other adverse effects			

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Produc	t information	: No infor	mation available.	
		: >60% B	OD, 28 days, Closed Bottle Test (OEC	CD 301D).

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product	 The product should not be allowed to enter drains, water courses or the soil. Do not contaminate ponds, waterways or ditches with chemical or used container. Hazardous waste Dispose of contents/container in accordance with local regulation.
Contaminated packaging	: Empty remaining contents. Dispose of as unused product.

SECTION 14: TRANSPORT INFORMATION

14.1 UN number	
ADN	: UN 2735
ADR	: UN 2735
RID	: UN 2735
IMDG-Code	: UN 2735
IATA-DGR	: UN 2735
14.2 Proper shipping name	
ADN	: AMINES, LIQUID, CORROSIVE, N.O.S. (Alkylamine)
ADR	: AMINES, LIQUID, CORROSIVE, N.O.S. (Alkylamine)
RID	: AMINES, LIQUID, CORROSIVE, N.O.S. (Alkylamine)
IMDG-Code	: AMINES, LIQUID, CORROSIVE, N.O.S.
IATA-DGR	(Alkylamine)Amines, liquid, corrosive, n.o.s.(Alkylamine)
14.3 Transport hazard class	
ADN	: 8
ADR	: 8
RID	: 8
IMDG-Code	: 8
IATA-DGR	: 8
14.4 Packing group	
ADN	
Packing group	: 11
Classification Code	: C7
Hazard Identification Number	
Labels ADR	: 8

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Packing	aroup	: 11		
-	ation Code	: C7		
	Identification Number	: 80		
Labels		: 8		
	estriction code	: (E)		
RID		- (-)		
Packing	group	: 11		
-	ation Code	: C7		
Hazard	Identification Number	: 80		
Labels		: 8		
IMDG-C	ode			
Packing	group	: 11		
Labels		: 8		
EmS Co	ode	: F-A, S-B		
IATA-DO	GR			
	instruction (cargo	: 855		
aircraft)	(5			
Packing	instruction	: 851		
	ger aircraft)			
	instruction (LQ)	: Y840		
Packing	group	: 11		
Labels		: 8		
4.5 Environ	mental hazards			
ADN				
Environn	nentally hazardous	: yes		
ADR				
	nentally hazardous	: yes		
RID	nentally hazardous	. yes		
	nentally hazardous	: yes		
IMDG-C	•	. 900		
			(lomino)	
Marine p IATA-DO		: yes (Alky	namme)	
	nentally hazardous	: yes		
4.6 Special	precautions for use	r		
Not onal	iaahla			

Not applicable

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

Not applicable for product as supplied.

SECTION 15: REGULATORY INFORMATION

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

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

E1	ENVIRONMENTAL	Quantity 1	Quantity 2
	HAZARDS	100 t	200 t
Water contaminating class (Germany)	: WGK 3 highly hazardous to Code Number: 1 885	o water	

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TA Luft	•	Total dust: Not applicable Inorganic substances in powdered form Inorganic substances in vapour or gase applicable Organic Substances: Not applicable Carcinogenic substances: Not applicable Mutagenic: Not applicable Toxic to reproduction: Not applicable	eous form: Not
Notifica	tion status		
DSL AICS NZIoC ENCS ISHL KECI PICCS IECSC TCSI TSCA	 YES. On the YES. All chem 	ponents of this product are on the Canad nventory, or in compliance with the inven nventory, or in compliance with the inven ical substances in this product are eithe y or in compliance with a TSCA Inventor	ntory ntory ntory ntory ntory ntory ntory ntory er listed on the

For explanation of abbreviation see section 16.

15.2 Chemical safety assessment

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Cocoamine
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: A Chemical Safety Assessment has been carried out for this substance.

SECTION 16: OTHER INFORMATION

	Harmful if swallowed. May be fatal if swallowed and enters airways.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H335	May cause respiratory irritation.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

Full text of other abbreviations

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances

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(lener);	F - O	Concentration			0/			 0110	

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(Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO -International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO -International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID -Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

Further information

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

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Annex :

Industrial use as coating agent for fertilizers.

Industrial and professional use of fertilizers.

Use of intermediate

Use of intermediate

Industrial formulation of products in textile industry, as metal corrosion inhibitor, fuel additives, antistatic agents (e.g. paints) and rubber additives.

Professional use in textile industry, as metal corrosion inhibitor, fuel additives, antistatic agent (e.g. paints) and rubber additives., Lubricant

Industrial formulation

Industrial use of food beverage and pharmaceutical products, Spraying (automatic/robotic)

Professional use of Food beverage and pharmacos products, Chain maintenance product, Spraying

. Industrial use of vehicle cleaning products

. Professional use of vehicle cleaning products

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1. Short title of Exposure Scenario: Industrial use as coating agent for fertilizers.

Main User Groups Environmental Release Categories Process categories	 SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites ERC2: Formulation of preparations PROC1: Use in closed process, no likelihood of exposure PROC3: Use in closed batch process (synthesis or formulation) PROC7: Industrial spraying PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities PROC9: Transfer of substance or preparation into small
	PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
Further information	: ,The exposure scenario covers:, Amines, coco alkyl

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

Amount used Maximum daily site tonnage (kg/day):	:	387 kg
Environment factors not influenced b	νı	risk management
Dilution Factor (River)	-	10
Dilution Factor (Coastal Areas)	:	100
Other given operational conditions a		
Number of emission days per year		
Emission or Release Factor: Air		
Emission or Release Factor: Water Emission or Release Factor: Soil		
Remarks		Formulation activity is assumed to be a predominantly enclosed process.
Technical conditions and measures /	o o	rganizational measures
Air		Filter (Effectiveness (of a measure): > 99 %)
Conditions and measures related to	mı	unicipal sewage treatment plant
Type of Sewage Treatment Plant		
Percentage removed from waste water	:	100 %
Sludge Treatment	:	Hazardous waste, No application to soil.
Conditions and measures related to e Waste treatment		ternal treatment of waste for disposal Incineration according to 2000/76/EC, Secure landfill according to 1999/31/EC, Recycling

Varaian 1	Povinian Data 12 04 2010
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2.2 Contributing scenario controlling worker exposure for: PROC1: Use in closed process, no likelihood of exposure

Activity Product characteristics	:	Batch processes at elevated temperatures, Short term exposure limit, Process sampling
Concentration of the Substance in Mixture/Article	:	Covers percentage substance in the product up to 20%.
Physical Form (at time of use)	:	liquid
Frequency and duration of use		
Duration of the acitivity	:	480 min
Exposure duration (per sampling and analysis)	:	15 min
Remarks	:	Inhalation
Frequency of use	:	300 days/year

Human factors not influenced by risk management

Dermal exposure : Palm of one hand (240 cm2)

Other operational conditions affecting workers exposure Outdoo

or / Indoor	:	Indoor	use

Technical conditions and measures

Transfer via enclosed lines., Encapsulated sampling devices. Ensure material transfers are under containment or extract ventilation. (Effectiveness (of a measure): > 80 %)

Organisational measures to prevent /limit releases, dispersion and exposure

Assumes a good basic standard of occupational hygiene is implemented, Ensure operatives are trained to minimise exposures.

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

Wear suitable gloves (tested to EN374), coverall and eve protection. Equipment cleaning and maintenance, Wear respiratory protection. (Effectiveness (of a measure): 90 %)

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

Activity	:	Batch processes at elevated temperatures, Short term exposure limit, Process sampling
Product characteristics		
Concentration of the Substance in Mixture/Article	:	Covers percentage substance in the product up to 20%.
Physical Form (at time of use)	:	liquid
Frequency and duration of use		
Duration of the acitivity	:	480 min
Exposure duration (per sampling and analysis)	:	15 min
Remarks	:	Inhalation
Frequency of use	:	300 days/year

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Human factors not influenced by risk management

Dermal exposure : Palms of both hands (480 cm2)

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor use

Technical conditions and measures

Transfer via enclosed lines., Encapsulated sampling devices.

Ensure material transfers are under containment or extract ventilation. (Effectiveness (of a measure): > 80 %)

Organisational measures to prevent /limit releases, dispersion and exposure

Assumes a good basic standard of occupational hygiene is implemented, Ensure operatives are trained to minimise exposures.

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

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

Equipment cleaning and maintenance, Wear respiratory protection. (Effectiveness (of a measure): 90 %)

2.4 Contributing scenario controlling worker exposure for: PROC7: Industrial spraying

Activity	: Conditioning of fertilizer using closed spray tower., Short te exposure limit, Process sampling	ərm
Product characteristics		
Concentration of the Substance in Mixture/Article	: Covers percentage substance in the product up to 20%.	
Physical Form (at time of use)	: liquid	
Frequency and duration of use		
Duration of the acitivity	: 480 min	
Exposure duration	: 480 min	
Frequency of use	: 300 days/year	

Human factors not influenced by risk management

Dermal exposure : Palms of both hands (480 cm2)

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor use

Technical conditions and measures

Transfer via enclosed lines., Encapsulated sampling devices.

Ensure material transfers are under containment or extract ventilation. (Effectiveness (of a measure): > 80 %)

Organisational measures to prevent /limit releases, dispersion and exposure

Assumes a good basic standard of occupational hygiene is implemented, Ensure operatives are trained to minimise exposures.

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

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

Equipment cleaning and maintenance, Wear respiratory protection. (Effectiveness (of a measure): 90

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%)

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

Activity Product characteristics	: Road tanker/rail car
Concentration of the Substance in Mixture/Article	: Covers percentage substance in the product up to 0.1%.
Physical Form (at time of use)	: liquid
Frequency and duration of use Duration of the acitivity	: > 240 min
Exposure duration Frequency of use	: > 240 min : 300 days/year
Human factors not influenced by ris Dermal exposure	k management : Palms of both hands (480 cm2)
Other operational conditions affecti Outdoor / Indoor	ng workers exposure : Outdoor use
Technical conditions and measures Transfer via enclosed lines.	
	t /limit releases, dispersion and exposure ccupational hygiene is implemented, Ensure operatives are
Conditions and measures related to Wear suitable gloves (tested to EN37	personal protection, hygiene and health evaluation 74), coverall and eye protection.
	Illing worker exposure for: PROC9: Transfer of nall containers (dedicated filling line, including
A ctivity	· Drum and small package filling Indeer

Activity	:	Drum and small package filling, Indoor
Product characteristics		
Concentration of the Substance in Mixture/Article	:	Covers percentage substance in the product up to 0.1%.
Physical Form (at time of use)	:	liquid
Frequency and duration of use		
Duration of the acitivity	:	> 240 min
Exposure duration	:	> 240 min
Frequency of use	:	300 days/year
Human factors not influenced by ris	k n	nanagement
Dermal exposure	:	Palms of both hands (480 cm2)
Other operational conditions affection	ng	workers exposure
Outdoor / Indoor	:	Indoor use

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Technical co	nditions and measures	6		
Transfer via	enclosed lines.		or extract ventilation. (Effectivene	ess (of a measure):
Assumes a			ses, dispersion and exposure hygiene is implemented, Ensure of	operatives are
	and measures related to EN3		rotection, hygiene and health e and eye protection.	evaluation
	•		er exposure for: PROC9: Tra	
substance (weighing)	or preparation into s	mall contail	ners (dedicated filling line, ir	ncluding
Activity		: Drum an	nd small package filling, Outdoor	
Product chai Concentrati	ion of the Substance in		nd small package filling, Outdoor percentage substance in the prod	luct up to 0.1%.
Product chai Concentrati Mixture/Art	ion of the Substance in			luct up to 0.1%.
Product chan Concentrati Mixture/Art Physical Fo Frequency a	ion of the Substance in icle orm (at time of use) nd duration of use	: Covers (: liquid	percentage substance in the prod	luct up to 0.1%.
Product chan Concentrati Mixture/Art Physical Fo Frequency a Duration of	ion of the Substance in icle orm (at time of use) nd duration of use the acitivity	: Covers (: liquid : > 240 m	percentage substance in the prod	luct up to 0.1%.
Product chai Concentrati Mixture/Art Physical Fo Frequency a Duration of Exposure of	ion of the Substance in icle orm (at time of use) nd duration of use the acitivity duration	: Covers : liquid : > 240 m : > 240 m	percentage substance in the prod in in	luct up to 0.1%.
Product chai Concentrati Mixture/Art Physical Fo Frequency a Duration of Exposure o Frequency	ion of the Substance in icle prm (at time of use) nd duration of use the acitivity duration of use	: Covers : liquid : > 240 m : > 240 m : 300 days	percentage substance in the prod in s/year	luct up to 0.1%.
Product chai Concentrati Mixture/Art Physical Fo Frequency a Duration of Exposure o Frequency	ion of the Substance in icle orm (at time of use) nd duration of use the acitivity duration of use ors not influenced by right	: Covers : liquid : > 240 m : > 240 m : 300 day: sk managem	percentage substance in the prod in s/year	luct up to 0.1%.
Product chan Concentrati Mixture/Art Physical For Frequency a Duration of Exposure of Frequency Human facto Dermal exp	ion of the Substance in icle orm (at time of use) nd duration of use the acitivity duration of use ors not influenced by ri- cosure	: Covers (: liquid : > 240 m : > 240 m : 300 day: sk managem : Palms o ing workers	percentage substance in the prod in in s/year nent f both hands (480 cm2) exposure	luct up to 0.1%.
Product chan Concentrati Mixture/Art Physical For Frequency a Duration of Exposure of Frequency Human facto Dermal exp	ion of the Substance in icle form (at time of use) and duration of use the acitivity duration of use fors not influenced by rise	: Covers (: liquid : > 240 m : > 240 m : 300 day: sk managem : Palms o ing workers	percentage substance in the prod in in s/year nent f both hands (480 cm2) exposure	luct up to 0.1%.
Product chan Concentrati Mixture/Art Physical Fo Frequency a Duration of Exposure of Frequency Human facto Dermal exp Other operat Outdoor / In Technical co Transfer via Ensure mate	ion of the Substance in icle form (at time of use) and duration of use the acitivity duration of use ars not influenced by ri- bosure tional conditions affect indoor anditions and measures enclosed lines.	: Covers (: liquid : > 240 m : > 240 m : 300 day: sk managem : Palms o ing workers : Outdoor s	percentage substance in the prod in in s/year nent f both hands (480 cm2) exposure	
Product chan Concentrati Mixture/Art Physical Fo Frequency a Duration of Exposure of Frequency Human facto Dermal exp Other operat Outdoor / In Technical co Transfer via	ion of the Substance in icle form (at time of use) and duration of use the acitivity duration of use ars not influenced by ri- bosure tional conditions affect indoor anditions and measures enclosed lines.	: Covers (: liquid : > 240 m : > 240 m : 300 day: sk managem : Palms o ing workers : Outdoor s	percentage substance in the prod in in s/year hent f both hands (480 cm2) exposure use	

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

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	
ERC2	EUSES		Fresh water		0,11 µg/L	0,42	
			Fresh water sediment		17 µg/kg wwt	0,42	
			Sewage treatment plant		0,99 µg/L	0,0018	

Workers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value	Level of Exposure	RCR
PROC1	ECETOC TRA		Long term inhalation	0,05 mg/m ³	0,13
PROC3	ECETOC TRA		Long term inhalation	0,15 mg/m³	0,39
PROC7	ART		Long term inhalation	0,09 mg/m ³	0,24
PROC8b	ART		Long term inhalation	0,005 mg/m ³	0,01
PROC9	ART	Indoor	Long term inhalation	0,013 mg/m ³	0,03
PROC9	ART	Outdoor	Long term inhalation	0,001 mg/m ³	> 0,01

ERC2: Formulation of preparations

PROC1: Use in closed process, no likelihood of exposure

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

PROC7: Industrial spraying

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)

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

For further information, please also consult our Internet site: Downstream Users http://guidance.echa.europa.eu/downstream_users_en.htm

	-			
Version 1	Revision Date 12.04.2	019	Print Date 08.02.2021	DE / El
1. Short titl	e of Exposure Scena	rio	Industrial and professional use of ferti	izers.
Main User	Groups	:	SU 22: Professional uses: Public domain (adr education, entertainment, services, craftsmen	
Environmer	ntal Release Categories	:	ERC8d: Wide dispersive outdoor use of proce open systems	•
Chemical p	product category	:	PC12: Fertilizers	
Process ca	ategories	:	PROC0: Other Process or activity	
Further info	ormation	:	,The exposure scenario covers:, Amines, coco	o alkyl
2.1 Contrib of preparat		ollir	ng environmental exposure for: ERC2: F	ormulation
Product cha Concentrat Mixture/Art	tion of the Substance in	:	Covers percentage substance in the product u	up to 0.1%.
Amount use	d	:	12,6 mg/m2	
Other given Remarks	operational conditions		ecting environmental exposure Soil depth for mixing: 0,2 m.	
Conditions a Waste trea		ex :	ternal treatment of waste for disposal Incineration according to 2000/76/EC, Secure	landfill
	ood practice advice bey good practice advice	/on :	according to 1999/31/EC, Recycling d the REACH Chemical Safety Assessment Ensure operatives are trained to minimise exp instructions before using.	osures., Read
2.2 Contrib activity	uting scenario contro	ollir	ng worker exposure for: PROC0: Other F	Process or
Activity	ractoriation	:	Automated spreading of granules to soil.	
Product cha Concentrat Mixture/Art	tion of the Substance in	:	Covers percentage substance in the product u	ıp to 0.1%.
	orm (at time of use)	:	Solid, low dustiness	

3. Exposure estimation and reference to its source

Environment

Version 1	Revision Date 12.04.2019	Print Date 08.02.2021	DE / EN

Contributing Scenario	Exposure Assessment Method	Specific conditions	Compartment	Value	Level of Exposure	RCR
ERC2	EUSES		Soil		5 µg∕kg wwt	0,006

Workers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value	Level of Exposure	RCR
PROC0		Due to very low concentration of the substance in the product the exposure levels are very low and hence no quantative exposure or risk assessment is carried out.			

Consumers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value	Level of Exposure	RCR
PC12		Due to very low concentration of the substance in the product the exposure levels are very low and hence no quantative exposure or risk assessment is carried out.			

: Automated spreading of granules to soil. ERC2: Formulation of preparations PC12: Fertilizers

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

For further information, please also consult our Internet site: Downstream Users http://guidance.echa.europa.eu/downstream_users_en.htm

Version 1	Revision Date 12.04.2	019	Print Date 08.02.2021	DE / EN
1. Short tit	le of Exposure Scenar	rio:	Use of intermediate	
Main Use	r Groups	:	SU 3: Industrial uses: Uses of substances as preparations at industrial sites	such or in
Environme Process c	ental Release Categories categories	:	ERC6a: Use of intermediate PROC1: Use in closed process, no likelihood PROC3: Use in closed batch process (synthe formulation) PROC8b: Transfer of substance or preparatio discharging) from/ to vessels/ large containers	esis or n (charging/
			facilities PROC9: Transfer of substance or preparation containers (dedicated filling line, including we	

Further information	: ,The exposure scenario covers:, Amines, coco alkyl

2.1 Contributing scenario controlling environmental exposure for: ERC6a: Use of intermediate

Amount used Maximum daily site tonnage (kg/day):	: 1530 kg
Environment factors not influenced	
Dilution Factor (River) Dilution Factor (Coastal Areas)	: 10 : 100
Other given operational conditions a	iffecting environmental exposure
Number of emission days per year Emission or Release Factor: Air Emission or Release Factor: Water Emission or Release Factor: Soil Remarks	: 0 % : 0,001 ppm
Technical conditions and measures	/ Organizational measures
Air	: Incineration (Effectiveness (of a measure): 99 %)
Conditions and measures related to	municipal sewage treatment plant
Percentage removed from waste water	: 100 %
Sludge Treatment	: Hazardous waste, No application to soil.
Conditions and measures related to	external treatment of waste for disposal
Waste treatment	: Incineration according to 2000/76/EC, Secure landfill according to 1999/31/EC, Recycling

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

/ersion 1 R	Revision Date 12.04.2019	9	Print Date 08.02.2021	DE / EI
Activity	:		Batch processes at elevated temperatures, exposure limit, Process sampling	Short term
Product character	ristics			
Concentration of	f the Substance in :	: (Covers the percentage of the substance in	the product up to
Mixture/Article			100 % (unless stated differently).	
Physical Form (a	at time of use) :		iquid	
Frequency and du				
Duration of the a	acitivity :	: 4	480 min	
Exposure duration	on (per sampling :	: '	15 min	
and analysis)				
Remarks	:		nhalation	
Frequency of us	e :	: :	300 days/year	
	ot influenced by risk ı			
Dermal exposure	э :	: 1	Palm of one hand (240 cm2)	
	conditions affecting			
Outdoor / Indoor	-		ndoor use	
Outdoor / Indoor	:	: (Outdoor use	
Transfer via enclo Ensure material t > 80 %) Organisational me Assumes a good	easures to prevent /li basic standard of occu	nta im	inment or extract ventilation. (Effectiveness inment or extract ventilation. (Effectiveness it releases, dispersion and exposure ational hygiene is implemented, Ensure op	
Transfer via enclo Ensure material t > 80 %) Organisational me Assumes a good trained to minimis	easures to prevent /li basic standard of occuse exposures.	im up:	inment or extract ventilation. (Effectiveness it releases, dispersion and exposure ational hygiene is implemented, Ensure op	eratives are
Transfer via enclo Ensure material t > 80 %) Organisational me Assumes a good trained to minimis	easures to prevent /li basic standard of occu se exposures.	im upa	inment or extract ventilation. (Effectiveness it releases, dispersion and exposure ational hygiene is implemented, Ensure op sonal protection, hygiene and health eva	eratives are
Transfer via enclo Ensure material t > 80 %) Organisational me Assumes a good trained to minimis Conditions and m Wear suitable glo	easures to prevent /li basic standard of occu se exposures. measures related to pe oves (tested to EN374).	im up:), c	inment or extract ventilation. (Effectiveness it releases, dispersion and exposure ational hygiene is implemented, Ensure op	eratives are aluation
Transfer via enclo Ensure material t > 80 %) Organisational me Assumes a good trained to minimis Conditions and m Wear suitable glo Equipment cleani %) 2.3 Contributing	easures to prevent /li basic standard of occu se exposures. heasures related to proves (tested to EN374), ing and maintenance,	im up:), c W	it releases, dispersion and exposure ational hygiene is implemented, Ensure op sonal protection, hygiene and health eva coverall and eye protection. ear respiratory protection. (Effectiveness (or g worker exposure for: PROC3: Use i	eratives are aluation of a measure): 90
Transfer via enclo Ensure material t > 80 %) Organisational me Assumes a good trained to minimis Conditions and m Wear suitable glo Equipment cleani %) 2.3 Contributing	easures to prevent /li basic standard of occu se exposures. heasures related to pe oves (tested to EN374) ing and maintenance, scenario controlling	inta iupa iupa ing ing ing ing	it releases, dispersion and exposure ational hygiene is implemented, Ensure op sonal protection, hygiene and health eva coverall and eye protection. ear respiratory protection. (Effectiveness (or g worker exposure for: PROC3: Use i	eratives are aluation of a measure): 90 in closed
Transfer via enclo Ensure material t > 80 %) Organisational me Assumes a good trained to minimis Conditions and m Wear suitable glo Equipment cleani %) 2.3 Contributing batch process (s	easures to prevent /li basic standard of occu se exposures. heasures related to proves (tested to EN374)) ing and maintenance, g scenario controlling synthesis or formul	inta iupa iupa ing ing ing ing	inment or extract ventilation. (Effectiveness it releases, dispersion and exposure ational hygiene is implemented, Ensure op sonal protection, hygiene and health eva coverall and eye protection. ear respiratory protection. (Effectiveness (or y worker exposure for: PROC3: Use in tion) Batch processes at elevated temperatures,	eratives are aluation of a measure): 90 in closed
Transfer via enclo Ensure material t > 80 %) Organisational mo Assumes a good trained to minimis Conditions and m Wear suitable glo Equipment cleani %) 2.3 Contributing batch process (so Activity Product character Concentration of	ransfers are under cor easures to prevent /li basic standard of occu se exposures. heasures related to proves (tested to EN374)) ing and maintenance, g scenario controlling synthesis or formul	inta iupa iupa iupa ing ing ilat : (it releases, dispersion and exposure ational hygiene is implemented, Ensure op sonal protection, hygiene and health eva coverall and eye protection. ear respiratory protection. (Effectiveness (or gworker exposure for: PROC3: Use i tion) Batch processes at elevated temperatures, exposure limit, Process sampling Covers the percentage of the substance in	eratives are aluation of a measure): 90 in closed Short term
Transfer via enclo Ensure material t > 80 %) Organisational mo Assumes a good trained to minimis Conditions and m Wear suitable glo Equipment cleani %) 2.3 Contributing batch process (so Activity Product character	ransfers are under cor easures to prevent /li basic standard of occu se exposures. heasures related to preves (tested to EN374) ing and maintenance, g scenario controlling synthesis or formul ristics f the Substance in	ing ing ing ing ing ing ing ing ing ing	it releases, dispersion and exposure ational hygiene is implemented, Ensure op sonal protection, hygiene and health eva coverall and eye protection. ear respiratory protection. (Effectiveness (or gworker exposure for: PROC3: Use i tion) Batch processes at elevated temperatures, exposure limit, Process sampling	eratives are aluation of a measure): 90 in closed Short term
Transfer via enclo Ensure material t > 80 %) Organisational me Assumes a good trained to minimis Conditions and m Wear suitable glo Equipment cleani %) 2.3 Contributing batch process (s Activity Product character Concentration of Mixture/Article Physical Form (a	ransfers are under cor easures to prevent /li basic standard of occu se exposures. measures related to proves (tested to EN374) ing and maintenance, g scenario controlling synthesis or formul : ristics f the Substance in : at time of use) :	ing ing ing ing ing ing ing ing ing ing	it releases, dispersion and exposure ational hygiene is implemented, Ensure op sonal protection, hygiene and health eva coverall and eye protection. ear respiratory protection. (Effectiveness (co g worker exposure for: PROC3: Use i tion) Batch processes at elevated temperatures, exposure limit, Process sampling Covers the percentage of the substance in 100 % (unless stated differently).	eratives are aluation of a measure): 90 in closed Short term
Transfer via enclo Ensure material t > 80 %) Organisational me Assumes a good trained to minimis Conditions and m Wear suitable glo Equipment cleani %) 2.3 Contributing batch process (s Activity Product character Concentration of Mixture/Article Physical Form (a Frequency and du	ristics f the Substance in it time of use it time of use	ing ing ing ing ing ing ing ing ing ing	it releases, dispersion and exposure ational hygiene is implemented, Ensure op sonal protection, hygiene and health eva- coverall and eye protection. ear respiratory protection. (Effectiveness (or gworker exposure for: PROC3: Use in tion) Batch processes at elevated temperatures, exposure limit, Process sampling Covers the percentage of the substance in 100 % (unless stated differently). iquid	eratives are aluation of a measure): 90 in closed Short term
Transfer via enclo Ensure material t > 80 %) Organisational me Assumes a good trained to minimis Conditions and m Wear suitable glo Equipment cleani %) 2.3 Contributing batch process (s Activity Product character Concentration of Mixture/Article Physical Form (a Frequency and du Exposure duratic	ristics f the Substance in interestion of use interestion of use	ing ing ing ing ing ing ing ing ing ing	it releases, dispersion and exposure ational hygiene is implemented, Ensure op sonal protection, hygiene and health eva coverall and eye protection. ear respiratory protection. (Effectiveness (co g worker exposure for: PROC3: Use i tion) Batch processes at elevated temperatures, exposure limit, Process sampling Covers the percentage of the substance in 100 % (unless stated differently).	eratives are aluation of a measure): 90 in closed Short term
Ensure material t > 80 %) Organisational me Assumes a good trained to minimis Conditions and m Wear suitable glo Equipment cleani %) 2.3 Contributing batch process (s Activity Product character Concentration of Mixture/Article Physical Form (a Frequency and du Exposure duratic and analysis)	ristics f the Substance in it time of use it time of use	nta im upa ing ing ing : (: 1	it releases, dispersion and exposure ational hygiene is implemented, Ensure op sonal protection, hygiene and health eva eoverall and eye protection. ear respiratory protection. (Effectiveness (or gworker exposure for: PROC3: Use i tion) Batch processes at elevated temperatures, exposure limit, Process sampling Covers the percentage of the substance in 100 % (unless stated differently). iquid	eratives are aluation of a measure): 90 in closed Short term
Transfer via enclo Ensure material t > 80 %) Organisational me Assumes a good trained to minimis Conditions and m Wear suitable glo Equipment cleani %) 2.3 Contributing batch process (s Activity Product character Concentration of Mixture/Article Physical Form (a Frequency and du Exposure duratic	ristics f the Substance in f the Substance in	nta im upa ing ing ing ing ing ing ing ing ing ing	it releases, dispersion and exposure ational hygiene is implemented, Ensure op sonal protection, hygiene and health eva- coverall and eye protection. ear respiratory protection. (Effectiveness (or gworker exposure for: PROC3: Use in tion) Batch processes at elevated temperatures, exposure limit, Process sampling Covers the percentage of the substance in 100 % (unless stated differently). iquid	eratives are aluation of a measure): 90 in closed Short term

Human factors not influenced by risk management

Dermal exposure	: Palms of both hands (480 cm2)
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Other operational conditions affecting workers exposure

Outdoor / Indoor	: Indoor use
Outdoor / Indoor	: Outdoor use

Technical conditions and measures

Transfer via enclosed lines., Encapsulated sampling devices.

Ensure material transfers are under containment or extract ventilation. (Effectiveness (of a measure): > 80 %)

Organisational measures to prevent /limit releases, dispersion and exposure

Assumes a good basic standard of occupational hygiene is implemented, Ensure operatives are trained to minimise exposures.

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

Wear suitable gloves (tested to EN374), coverall and eye protection. Equipment cleaning and maintenance, Wear respiratory protection. (Effectiveness (of a measure): 90 %)

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

Activity Product characteristics	: Road tanker/rail car			
Concentration of the Substance in Mixture/Article Physical Form (at time of use)	Covers the percentage of the substance in the product up to 100 % (unless stated differently).liquid			
Frequency and duration of use				
Duration of the acitivity	: > 240 min			
	: > 240 min			
Frequency of use	: 300 days/year			
Human factors not influenced by risk	k management			
Dermal exposure	: Palms of both hands (480 cm2)			
Other operational conditions affecting workers exposure Outdoor / Indoor : Outdoor use				
Technical conditions and measures Transfer via enclosed lines.				
	/limit releases, dispersion and exposure coupational hygiene is implemented, Ensure operatives are			
Conditions and measures related to personal protection, hygiene and health evaluation Wear suitable gloves (tested to EN374), coverall and eye protection.				

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

Activity	: Road tanker/rail car, Indoor			
Product characteristics Concentration of the Substance in	· Course the percentage of the substance in the product up to			
Mixture/Article	: Covers the percentage of the substance in the product up to 100 % (unless stated differently).			
Physical Form (at time of use)	: liquid			
Frequency and duration of use Duration of the acitivity	: > 240 min			
Exposure duration	240 min			
Frequency of use	: 300 days/year			
Human factors not influenced by risk	amanagement			
Dermal exposure	: Palms of both hands (480 cm2)			
Other operational conditions affectin	ng workers exposure			
Outdoor / Indoor	: Indoor use			
Technical conditions and measures Transfer via enclosed lines., Encapsulated sampling devices. Ensure material transfers are under containment or extract ventilation. (Effectiveness (of a measure): > 80 %)				
Organisational measures to prevent /limit releases, dispersion and exposure Assumes a good basic standard of occupational hygiene is implemented, Ensure operatives are trained to minimise exposures.				
Conditions and measures related to personal protection, hygiene and health evaluation Wear suitable gloves (tested to EN374), coverall and eye protection. Equipment cleaning and maintenance, Wear respiratory protection. (Effectiveness (of a measure): 90 %)				
2.6 Contributing scenario controlling worker exposure for: PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)				

Activity	:	Road tanker/rail car, Outdoor
Product characteristics		
Concentration of the Substance in Mixture/Article Physical Form (at time of use)		Covers the percentage of the substance in the product up to 100 % (unless stated differently). liquid
Frequency and duration of use		
Duration of the acitivity	:	> 240 min
Exposure duration	:	> 240 min
Frequency of use	:	300 days/year
Human factors not influenced by risk	k n	nanagement

Dermal exposure : Palms of both hands (480 cm2)

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Other operational conditions affecting workers exposure

Outdoor / Indoor : Outdoor use

Technical conditions and measures

Transfer via enclosed lines.

Ensure material transfers are under containment or extract ventilation. (Effectiveness (of a measure): > 80 %)

Organisational measures to prevent /limit releases, dispersion and exposure

Assumes a good basic standard of occupational hygiene is implemented, Ensure operatives are trained to minimise exposures.

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

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

3. Exposure estimation and reference to its source

Environment

Contributing Scenario	Exposure Assessment Method	Specific conditions	Compartment	Value	Level of Exposure	RCR
ERC6a	EUSES		Fresh water		0,013 µg/L	0,05
			Fresh water sediment		1,9 mg/kg dry weight	0,049
			Sewage treatment plant		0,018 µg/L	> 0,0001

Workers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value	Level of Exposure	RCR
PROC1	ECETOC TRA		Long term inhalation	0,08 mg/m ³	0,22
PROC3	ECETOC TRA		Long term inhalation	0,25 mg/m ³	0,66
PROC8b	ART		Long term inhalation	0,05 mg/m ³	0,13
PROC9	ART	Indoor	Long term inhalation	0,02 mg/m ³	0,05
PROC9	ART	Outdoor	Long term inhalation	0,13 mg/m ³	0,34

ERC6a: Use of intermediate

PROC1: Use in closed process, no likelihood of exposure

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

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

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

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

For further information, please also consult our Internet site: Downstream Users http://guidance.echa.europa.eu/downstream_users_en.htm

ersion 1	Revision Date 12.04.20	019	Print Date 08.02.2021	DE / EN
1 Short tit	le of Exposure Scenar	io l	Ise of intermediate	
Main User	Groups		SU 3: Industrial uses: Uses of substances a preparations at industrial sites	s such or in
Environme	ntal Release Categories	: i	ERC1: Manufacture of the substance	
Process c	0	I	PROC1: Use in closed process, no likelihoo PROC3: Use in closed batch process (synth ormulation)	•
		(PROC5: Mixing or blending in batch process of preparations and articles (multistage and/ contact)	
		(PROC8b: Transfer of substance or preparati discharging) from/ to vessels/ large containe acilities	
			PROC9: Transfer of substance or preparation containers (dedicated filling line, including w	
Further inf	formation	:,	The exposure scenario covers:, Amines, co	co alkyl

2.1 Contributing scenario controlling environmental exposure for: ERC1: Manufacture of the substance

Amount	used

Maximum daily site tonnage	: 2000 kg
(kg/day):	

Dilution Factor (River)	:	10
Dilution Factor (Coastal Areas)	:	100

Other given operational conditions affecting environmental exposure

Number of emission days per year Emission or Release Factor: Air		300 0 %
Emission or Release Factor: Water Emission or Release Factor: Soil		0,17 % 0 %
Remarks	:	Formulation activity is assumed to be a predominantly enclosed process.
Technical conditions and measures / Organizational measuresAir: Filter (Effectiveness (of a measure): > 90 %)		

Conditions and measures related to municipal sewage treatment plant

Type of Sewage Treatment Plant	: On site
Percentage removed from waste	: 100 %
water Sludge Treatment	: Hazardous waste, No application to soil.

Waste treatme

Waste treatment	Incineration according to 2000/76/EC, Secure landfill according to 1999/31/EC, Recycling	

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

Activity	: Batch processes at elevated temperatures, Short term exposure limit, Process sampling		
Product characteristics			
Concentration of the Substance in Mixture/Article Physical Form (at time of use)	 Covers the percentage of the substance in the product up to 100 % (unless stated differently). liquid 		
Frequency and duration of use			
Duration of the acitivity	: 480 min		
Exposure duration (per sampling and analysis)	: 15 min		
Remarks	: Inhalation		
Frequency of use	: 300 days/year		
Human factors not influenced by risk	management		
Dermal exposure	: Palm of one hand (240 cm2)		
Other operational conditions affecting workers exposure			
Outdoor / Indoor	: Indoor use		
Outdoor / Indoor	: Outdoor use		
Technical conditions and measures			
Transfer via enclosed lines., Encapsulated sampling devices. Ensure material transfers are under containment or extract ventilation. (Effectiveness (of a measure): > 80 %)			
Organisational measures to prevent /limit releases, dispersion and exposure Assumes a good basic standard of occupational hygiene is implemented, Ensure operatives are trained to minimise exposures.			
Conditions and measures related to personal protection, hygiene and health evaluation Wear suitable gloves (tested to EN374), coverall and eye protection.			

Wear suitable gloves (tested to EN374), coverall and eye protection. Equipment cleaning and maintenance, Wear respiratory protection. (Effectiveness (of a measure): 90 %)

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

Activity	: Batch processes at elevated temperatures, Short term exposure limit, Process sampling	
Product characteristics		
Concentration of the Substance in Mixture/Article Physical Form (at time of use)	 Covers the percentage of the substance in the product up to 100 % (unless stated differently). liquid 	
Frequency and duration of use		
	. 15 min	
Exposure duration (per sampling and analysis)	: 15 min	
Remarks	: Inhalation	
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ARMEEN			
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Frequency	of use :	300 days/year	
Human facto Dermal exp	rs not influenced by risk i posure	management Palms of both hands (480 cm2)	
Other operati Outdoor / Ir Outdoor / Ir		workers exposure Indoor use Outdoor use	
Technical conditions and measures Transfer via enclosed lines., Encapsulated sampling devices. Ensure material transfers are under containment or extract ventilation. (Effectiveness (of a measure): > 80 %)			
Assumes a		i mit releases, dispersion and exposure upational hygiene is implemented, Ensure operatives are	
Wear suitab	le gloves (tested to EN374)	ersonal protection, hygiene and health evaluation , coverall and eye protection. Wear respiratory protection. (Effectiveness (of a measure): 90	
2.4 Contributing scenario controlling worker exposure for: PROC5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/ or significant contact)			
Mixture/Arti	acteristics on of the Substance in : cle	Short term exposure limit, Process sampling, Closed systems Covers the percentage of the substance in the product up to 100 % (unless stated differently). liquid	

Frequency and duration of use

Duration of the acitivity Exposure duration (per sampling	: > 240 min : 15 min
and analysis) Remarks	: Inhalation
Frequency of use	: 300 days/year

Human factors not influenced by risk management Dermal exposure : Palms of both hands (480 cm2) Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor use Outdoor / Indoor : Outdoor use

Technical conditions and measures

Transfer via enclosed lines., Encapsulated sampling devices. Ensure material transfers are under containment or extract ventilation. (Effectiveness (of a measure): > 80 %)

Organisational measures to prevent /limit releases, dispersion and exposure

Assumes a good basic standard of occupational hygiene is implemented, Ensure operatives are

Activity

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trained to minimise exposures.

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

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

Equipment cleaning and maintenance, Wear respiratory protection. (Effectiveness (of a measure): 90 %)

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

: Road tanker/rail car

Activity	: Road tanker/rail car			
Product characteristics				
Concentration of the Substance in Mixture/Article	: Covers the percentage of the substance in the product up to 100 % (unless stated differently).			
Physical Form (at time of use)	: liquid			
Frequency and duration of use				
Duration of the acitivity	: > 240 min			
Exposure duration	: > 240 min			
Remarks	: Inhalation			
Frequency of use	: 300 days/year			
Human factors not influenced by risk	a management			
Dermal exposure	: Palms of both hands (480 cm2)			
Bonnar expectate				
Other operational conditions affecting workers exposure				
Outdoor / Indoor	: Outdoor use			
 Technical conditions and measures Transfer via enclosed lines. Organisational measures to prevent /limit releases, dispersion and exposure Assumes a good basic standard of occupational hygiene is implemented, Ensure operatives are trained to minimise exposures. Conditions and measures related to personal protection, hygiene and health evaluation Wear suitable gloves (tested to EN374), coverall and eye protection. 				
2.6 Contributing scenario controlling worker exposure for: PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)				
Activity	: Drum and small package filling, Indoor			
Product characteristics				
Concentration of the Substance in	: Covers the percentage of the substance in the product up to			
Mixture/Article	100 % (unless stated differently).			
Physical Form (at time of use)	: liquid			
Frequency and duration of use Duration of the acitivity Exposure duration	: > 240 min : > 240 min			

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Remarks	: 1	nhalation		
Frequency	y of use : 3	300 days/year		
Human factors not influenced by risk management				
Dermal ex	xposure : F	Palms of both hands (480 cm2)		
Other operational conditions affecting workers exposure Outdoor / Indoor : Indoor use				
Technical conditions and measures Transfer via enclosed lines. Ensure material transfers are under containment or extract ventilation. (Effectiveness (of a measure): > 80 %)				
Assumes a	•	it releases, dispersion and exposure ational hygiene is implemented, Ensure ope	eratives are	

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

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

A		
	: Drum and small package filling, Outdoor	
Product characteristics		
	: Covers the percentage of the substance in the product up to	
Mixture/Article	100 % (unless stated differently).	
Physical Form (at time of use)	: liquid	
Frequency and duration of use		
	: > 240 min	
	: > 240 min	
•	: Inhalation	
Frequency of use	: 300 days/year	
Human factors not influenced by risk management		
Dermal exposure	: Palms of both hands (480 cm2)	
Other operational conditions affecting workers exposure		
Outdoor / Indoor	: Outdoor use	
Technical conditions and measures		
Transfer via enclosed lines.		
Ensure material transfers are under containment or extract ventilation. (Effectiveness (of a measure):		
> 80 %)		
Organisational measures to prevent /limit releases, dispersion and exposure		

Assumes a good basic standard of occupational hygiene is implemented, Ensure operatives are trained to minimise exposures.

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

3. Exposure estimation and reference to its source

Environment

Contributing Scenario	Exposure Assessment Method	Specific conditions	Compartment	Value	Level of Exposure	RCR
ERC1	EUSES		Fresh water		0,015 µg/L	0,057
			Fresh water sediment		22 mg/kg dry weight	0,057
			Sewage treatment plant		2,9 µg/L	0,0053

Workers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value	Level of Exposure	RCR
PROC1	ECETOC TRA		Long term inhalation	0,08 mg/m ³	0,22
PROC3	ECETOC TRA		Long term inhalation	0,25 mg/m ³	0,66
PROC5	ART		Long term inhalation	0,02 mg/m ³	0,05
PROC8b	ART		Long term inhalation	0,05 mg/m ³	0,13
PROC9	ART	Indoor	Long term inhalation	0,13 mg/m ³	0,34
PROC9	ART	Outdoor	Long term inhalation	0,02 mg/m ³	0,05

ERC1: Manufacture of the substance

PROC1: Use in closed process, no likelihood of exposure

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

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

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)

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

Version 1

1. Short title of Exposure Scenario: Industrial formulation of products in textile industry, as metal corrosion inhibitor, fuel additives, antistatic agents (e.g. paints) and rubber additives.

Main User Groups Environmental Release Categories Process categories	 SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites ERC2: Formulation of preparations PROC1: Use in closed process, no likelihood of exposure PROC3: Use in closed batch process (synthesis or formulation) PROC5: Mixing or blending in batch processes for formulation
	of preparations and articles (multistage and/ or significant contact) 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)
Further information	: ,The exposure scenario covers:, Amines, coco alkyl

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

Amount used Maximum daily site tonnage (kg/day):	:	49 kg
Environment fectors not influenced	b	rick management
Environment factors not influenced Dilution Factor (River)	-	10
Dilution Factor (Coastal Areas)	-	100
Didition ractor (Coastal Areas)	•	
Other given operational conditions a	affe	ecting environmental exposure
Number of emission days per year	:	300
Emission or Release Factor: Air	:	0 %
Emission or Release Factor: Water	:	0,3 %
Emission or Release Factor: Soil		
Remarks	:	Formulation activity is assumed to be a predominantly
		enclosed process.
Technical conditions and measures)rganizational measures
Air		Filter (Effectiveness (of a measure): > 90 %)
	•	
Conditions and measures related to	m	unicipal sewage treatment plant
Type of Sewage Treatment Plant		
Percentage removed from waste	:	100 %
water		
Sludge Treatment	:	Hazardous waste, No application to soil.
Conditions and measures related to	• • •	to mal the streamt of we sta for diseased
Conditions and measures related to	ex	ternal treatment of waste for disposal

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Waste treatment	:	Incineration according to 2000/76/EC, Secure landfill according to 1999/31/EC, Recycling
	scenario controlli	ng worker exposure for: PROC1: Use in closed
-		
Activity		Batch processes at elevated temperatures, Short term exposure limit, Process sampling
Product character		Covers percentage substance in the product up to 10%
Mixture/Article	the Substance III .	Covers percentage substance in the product up to 10%.
Physical Form (at	t time of use) :	liquid
Frequency and du	ration of use	
Duration of the a		: 480 min
Exposure duration	n (per sampling :	: 15 min
and analysis)		
Remarks	:	Inhalation
Frequency of use	;	: 300 days/year
Human factors not Dermal exposure	t influenced by risk i :	management Palm of one hand (240 cm2)
	conditions affecting	•
Outdoor / Indoor Outdoor / Indoor	:	Indoor use Outdoor use
	sed lines., Encapsula	ited sampling devices. ntainment or extract ventilation. (Effectiveness (of a measure
	pasic standard of occ	imit releases, dispersion and exposure upational hygiene is implemented, Ensure operatives are
Wear suitable glov	es (tested to EN374)	ersonal protection, hygiene and health evaluation , coverall and eye protection. Wear respiratory protection. (Effectiveness (of a measure):
	scenario controlli synthesis or formu	ng worker exposure for: PROC3: Use in closed lation)
Activity	:	Batch processes at elevated temperatures, Short term exposure limit, Process sampling
Product character	istics	
	the Substance in :	Covers percentage substance in the product up to 10%.
Mixture/Article		
Physical Form (a	t time of use) :	: liquid
	ration of	
Frequency and du		15 min

Exposure duration (per sampling : 15 min

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and analys	;e)		
and analys	is)		
Remarks		:	Inhalation
Frequency	of use	:	300 days/year
Human facto	ors not influenced by	risk n	nanagement
Dermal exp	•		Palms of both hands (480 cm2)
·			, , , , , , , , , , , , , , , , , , ,
Other operat	tional conditions affe	ecting	workers exposure
Outdoor / I	ndoor	:	Indoor use
Outdoor / I	ndoor	:	Outdoor use

Technical conditions and measures

Transfer via enclosed lines., Encapsulated sampling devices.

Ensure material transfers are under containment or extract ventilation. (Effectiveness (of a measure): > 80 %)

Organisational measures to prevent /limit releases, dispersion and exposure

Assumes a good basic standard of occupational hygiene is implemented, Ensure operatives are trained to minimise exposures.

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

Wear suitable gloves (tested to EN374), coverall and eye protection. Equipment cleaning and maintenance, Wear respiratory protection. (Effectiveness (of a measure): 90 %)

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

Activity	: Short term exposure limit, Process sampling, Closed systems
Product characteristics Concentration of the Substance in Mixture/Article	: Covers percentage substance in the product up to 10%.
Physical Form (at time of use)	: liquid
Frequency and duration of use	
Duration of the acitivity	: > 240 min
Exposure duration (per sampling and analysis)	: 15 min
Remarks	: Inhalation
Frequency of use	: 300 days/year
Human factors not influenced by risk	management
Dermal exposure	: Palms of both hands (480 cm2)
Other operational conditions affecting	y workers exposure
Outdoor / Indoor	: Indoor use
Outdoor / Indoor	: Outdoor use

Technical conditions and measures

Transfer via enclosed lines., Encapsulated sampling devices.

Ensure material transfers are under containment or extract ventilation. (Effectiveness (of a measure): > 80 %)

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Organisational measures to prevent /limit releases, dispersion and exposure

Assumes a good basic standard of occupational hygiene is implemented, Ensure operatives are trained to minimise exposures.

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

Equipment cleaning and maintenance, Wear respiratory protection. (Effectiveness (of a measure): 90 %)

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

Activity Product characteristics	: Road tanker/rail car
Concentration of the Substance in Mixture/Article	: Covers percentage substance in the product up to 10%.
Physical Form (at time of use)	: liquid
Frequency and duration of use	
Duration of the acitivity	: > 240 min
Exposure duration	: > 240 min
Remarks	: Inhalation
Frequency of use	: 300 days/year
Human factors not influenced by ris	k management
Dermal exposure	: Palms of both hands (480 cm2)
Other operational conditions affection	na workers exposure
Outdoor / Indoor	: Outdoor use
Technical conditions and measures Transfer via enclosed lines.	
	/limit releases, dispersion and exposure coupational hygiene is implemented, Ensure operatives are
Conditions and measures related to Wear suitable gloves (tested to EN37	personal protection, hygiene and health evaluation 4), coverall and eye protection.
	lling worker exposure for: PROC9: Transfer of nall containers (dedicated filling line, including
Activity	: Drum and small package filling, Indoor
Product characteristics	
Concentration of the Substance in Mixture/Article	: Covers percentage substance in the product up to 10%.
Physical Form (at time of use)	: liquid

Frequency and duration of use

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Duration of the acitivity	: > 240 min
Exposure duration	: > 240 min
Remarks	: Inhalation
Frequency of use	: 300 days/year

Human factors not influenced by risk management

Dermal exposure : Palms of both hands (480 cm2)

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor use

Technical conditions and measures

Transfer via enclosed lines.

Ensure material transfers are under containment or extract ventilation. (Effectiveness (of a measure): > 80 %)

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Organisational measures to prevent /limit releases, dispersion and exposure

Assumes a good basic standard of occupational hygiene is implemented, Ensure operatives are trained to minimise exposures.

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

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

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

Activity Product characteristics	: Drum and small package filling, Outdoor
Concentration of the Substance in Mixture/Article	: Covers percentage substance in the product up to 10%.
Physical Form (at time of use)	: liquid
Frequency and duration of use	
Duration of the acitivity	: > 240 min
Exposure duration	: > 240 min
Remarks	: Inhalation
Frequency of use	: 300 days/year
Human factors not influenced by ris	k management
Dermal exposure	: Palms of both hands (480 cm2)
Other operational conditions affection	ng workers exposure
Outdoor / Indoor	: Outdoor use
Technical conditions and measures Transfer via enclosed lines. Ensure material transfers are under or > 80 %)	containment or extract ventilation. (Effectiveness (of a measure):

Organisational measures to prevent /limit releases, dispersion and exposure

Assumes a good basic standard of occupational hygiene is implemented, Ensure operatives are trained to minimise exposures.

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

3. Exposure estimation and reference to its source

Environment

Contributing Scenario	Exposure Assessment Method	Specific conditions	Compartment	Value	Level of Exposure	RCR
ERC2	EUSES		Fresh water		0,024 µg/L	0,092
			Fresh water sediment		3,6 µg/kg wwt	0,092
			Sewage		0,13 µg/L	0,0015
			treatment plant			

Workers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value	Level of Exposure	RCR
PROC1	ECETOC TRA		Long term inhalation	0,08 mg/m ³	0,22
PROC3	ECETOC TRA		Long term inhalation	0,23 mg/m ³	0,61
PROC5	ART		Long term inhalation	0,02 mg/m ³	0,05
PROC8b	ART		Long term inhalation	0,02 mg/m ³	0,05
PROC9	ART	Indoor	Long term inhalation	0,01 mg/m ³	0,03
PROC9	ART	Outdoor	Long term inhalation	< 0,01 mg/m ³	0,03

ERC2: Formulation of preparations

PROC1: Use in closed process, no likelihood of exposure

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

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

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)

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

Version 1	Revision Date 12.04.2019	Print Date 08.02.2021

Version 1

1. Short title of Exposure Scenario: Professional use in textile industry, as metal corrosion inhibitor, fuel additives, antistatic agent (e.g. paints) and rubber additives., Lubricant

Main User Groups	: SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Environmental Release Categories	: ERC4: Use of non-reactive processing aid at industrial site (no inclusion into or onto article)
Chemical product category	 PC15: Non-metal surface treatment products PC17: Hydraulic fluids PC24: Lubricants, greases, release products PC25: Metal working fluids PC34: Textile dyes and impregnating products
Further information	: ,The exposure scenario covers:, Amines, coco alkyl

2.1 Contributing scenario controlling environmental exposure for: ERC4: Use of nonreactive processing aid at industrial site (no inclusion into or onto article)

Amount used Maximum daily site tonnage (kg/day):	: 2 kg
Environment factors not influenced	by risk management
Dilution Factor (River)	
Dilution Factor (Coastal Areas)	
Other given operational conditions a	affecting environmental exposure
Number of emission days per year	•
Emission or Release Factor: Air	
Emission or Release Factor: Water	
Emission or Release Factor: Soil	
Conditions and measures related to Percentage removed from waste water	: 100 %
Sludge Treatment	: Hazardous waste, No application to soil.
Conditions and measures related to	external treatment of waste for disposal
Waste treatment	 Incineration according to 2000/76/EC, Secure landfill according to 1999/31/EC, Recycling

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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	Method			
ERC4	EUSES	Fresh water	0,011 µg/L	0,042
		Fresh water	1,6 µg/kg wwt	0,042
		sediment		
		Sewage	0,0051 µg/L	< 0,0001
		treatment		
		plant		

Consumers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value	Level of Exposure	RCR
PC15			Long term inhalation	0,19 mg/m ³	0,5
PC17		No concern.	Long term inhalation		
PC24		No concern.	Long term inhalation		
PC25	ART		Long term inhalation	0,11 mg/m ³	0,29
PC25	ART		Long term inhalation	0,02 mg/m ³	0,05

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

PC15: Non-metal surface treatment products

PC17: Hydraulic fluids

PC24: Lubricants, greases, release products

PC25: Metal working fluids

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

Further information

of preparations

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1. Short tit	le of Exposure Scenar	io: Indu	strial formulation	
Main Use	r Groups		: Industrial uses: Uses of substances arations at industrial sites	s as such or in
	ental Release Categories		2: Formulation of preparations	
Process c	ategories	form PRO	C3: Use in closed batch process (sy ulation) C8b: Transfer of substance or prepa harging) from/ to vessels/ large conta	ration (charging/

PROC15: Use as laboratory reagent

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

: ,The exposure scenario covers:, Amines, coco alkyl

facilities

Amount used Maximum daily site tonnage (kg/day):	:	387 kg/day
 Environment factors not influenced Dilution Factor (River) Dilution Factor (Coastal Areas) Other given operational conditions a Number of emission days per year Emission or Release Factor: Air Emission or Release Factor: Water Emission or Release Factor: Soil Remarks 	affe	10 100 ecting environmental exposure 300 0 %

2.1 Contributing scenario controlling environmental exposure for: ERC2: Formulation

Technical conditions and measures	/ C	organizational measures
Air	:	Filter (Effectiveness (of a measure): > 90 %)
Conditions and measures related to	m	unicipal sewage treatment plant
Type of Sewage Treatment Plant	:	On site
Percentage removed from waste water	:	100 %
Sludge Treatment	:	Hazardous waste, No application to soil.
Conditions and measures related to Waste treatment		ternal treatment of waste for disposal Incineration according to 2000/76/EC, Secure landfill according to 1999/31/EC, Recycling

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	ing scenario controll s (synthesis or form		vorker exposure for: PROC3: Use n)	in closed
Activity			mulation [mixing] of preparations and/or actors synthesis in batch process	re-packaging,
Product charac				
Concentratior Mixture/Articl	n of the Substance in e	: Co	vers percentage substance in the produc	ct up to 30%.
Physical Forn	n (at time of use)	: liqu	uid	
Frequency and	duration of use			
Duration of th		: 8 h		
Frequency of		: 15) days/year	
Human factors	not influenced by risk	man	agement	
Breathing vol			m3/8h shift	
Other operatio	nal conditions affecting	a wor	kers exposure	
Outdoor / Ind			oor use	
Room size		: 56	00. m3	
Exposure route Inhalation	es.			
Transfer via e		ective	ness (of a measure): > 80 %)	
Assumes a go	-	cupati	releases, dispersion and exposure onal hygiene is implemented xposures.	
			nal protection, hygiene and health even erall and eye protection.	aluation
Equipment cle	aning and maintenance,	Wea	r respiratory protection. (Effectiveness (of a measure): 90

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

Activity	:	Sampling from reactors
Product characteristics		
Concentration of the Substance in	:	Covers percentage substance in the product up to 30%.
Mixture/Article		
Physical Form (at time of use)	:	liquid

Frequency and duration of use

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Exposure and analys	duration (per sampling sis)	: '	15 min
Remarks	f the acitivity		Inhalation 75 min
Frequency			150 days/year

Other operational conditions affecting workers exposure

Outdoor / Indoor

: Indoor use

Exposure routes

Inhalation

Technical conditions and measures

Encapsulated sampling devices., Transfer via enclosed lines. Use with local exhaust ventilation. (Effectiveness (of a measure): > 80 %)

Organisational measures to prevent /limit releases, dispersion and exposure

Assumes a good basic standard of occupational hygiene is implemented, Ensure operatives are trained to minimise exposures.

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

Equipment cleaning and maintenance, Wear respiratory protection. (Effectiveness (of a measure): 90 %)

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

Activity	: Unloading of IBC containers or drums.
Product characteristics Concentration of the Substance in Mixture/Article	: Covers percentage substance in the product up to 30%.
Physical Form (at time of use)	: liquid
Frequency and duration of use	
Duration of the acitivity	: >4 h
Frequency of use	: 150 days/year
Other operational conditions affecti	ng workers exposure
Outdoor / Indoor	: Indoor use
Outdoor / Indoor	: Outdoor use
Exposure routes Inhalation	

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Encapsula	onditions and measures ted sampling devices., Transfer via ocal exhaust ventilation. (Effectivene		
Assumes a	a good basic standard of occupation minimise exposures.	leases, dispersion and exposure hal hygiene is implemented, Ensure op	peratives are
	and measures related to personate able gloves (tested to EN374) and e	al protection, hygiene and health ev ye protection.	aluation

Equipment cleaning and maintenance, Wear respiratory protection. (Effectiveness (of a measure): 90 %)

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

Activity	:	Loading of bulk transport.
Product characteristics		.
Concentration of the Substance in Mixture/Article	:	Covers percentage substance in the product up to 30%.
Physical Form (at time of use)	:	liquid
Frequency and duration of use		
Duration of the acitivity	:	> 4 h
Frequency of use	:	150 days/year
Other operational conditions affecti	ng	workers exposure
Outdoor / Indoor	:	Outdoor use

Technical conditions and measures

Transfer via enclosed lines., Use of closed filling equipment.

Organisational measures to prevent /limit releases, dispersion and exposure

Assumes a good basic standard of occupational hygiene is implemented, Ensure operatives are trained to minimise exposures.

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

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

Product characteristics

Concentration of the Substance in : Covers percentage substance in the product up to 30%. Mixture/Article

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Physical F	Form (at time of use)	:	liquid	
	and duration of use of the acitivity	:	4 h	
Other opera Outdoor /	ational conditions affect Indoor	ting:	workers exposure Indoor use	
Transfer via	onditions and measure a enclosed lines., Use o ocal exhaust ventilation.	f clos	sed filling equipment. ctiveness (of a measure): > 80 %)	

Organisational measures to prevent /limit releases, dispersion and exposure

Assumes a good basic standard of occupational hygiene is implemented, Ensure operatives are trained to minimise exposures.

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

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

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

Activity Product characteristics Concentration of the Substance in Mixture/Article Physical Form (at time of use)	 Drum and small package filling, Indoor Covers percentage substance in the product up to 20%. liquid
Thysical Tollin (at time of use)	
Frequency and duration of use	
Duration of the acitivity	: > 240 min
Exposure duration	: > 240 min
Remarks	: Inhalation
Frequency of use	: 300 days/year
Human factors not influenced by ris	k menegement
Human factors not influenced by ris	
Dermal exposure	: Palms of both hands (480 cm2)
Other operational conditions affecti	ng workers exposure
Outdoor / Indoor	: Indoor use
Technical conditions and measures Transfer via enclosed lines. Ensure material transfers are under of > 80 %)	containment or extract ventilation. (Effectiveness (of a measure):
•	: /limit releases, dispersion and exposure ccupational hygiene is implemented, Ensure operatives are
Conditions and measures related to	personal protection, hygiene and health evaluation

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

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

Activity	: Drum and small package filling, Outdoor
Product characteristics	
Concentration of the Substance in Mixture/Article	: Covers percentage substance in the product up to 20%.
Physical Form (at time of use)	: liquid
Frequency and duration of use	
Duration of the acitivity	: > 240 min
Exposure duration	: > 240 min
Remarks	: Inhalation
Frequency of use	: 300 days/year
Human factors not influenced by risk	amanagement
Dermal exposure	: Palms of both hands (480 cm2)
Other operational conditions affectin	g workers exposure
Outdoor / Indoor	: Outdoor use
Technical conditions and measures Transfer via enclosed lines.	
Ensure material transfers are under c > 80 %)	ontainment or extract ventilation. (Effectiveness (of a measure):
Organisational measures to prevent	/limit releases, dispersion and exposure

Assumes a good basic standard of occupational hygiene is implemented, Ensure operatives are trained to minimise exposures.

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

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

3. Exposure estimation and reference to its source

Environment

Contributing Scenario	Exposure Assessment Method	Specific conditions	Compartment	Value	Level of Exposure	RCR
ERC2	EUSES		Fresh water		0,11 µg/L	0,42
			Fresh water sediment		16,5 μg/kg wwt	0,42
			Sewage treatment plant		0,99 µg/L	0,0018

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Workers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value	Level of Exposure	RCR
PROC3	ECETOC TRA	Formulation [mixing] of preparations and/or re- packaging	Inhalation	< 0,01 mg/m ³	0,026
PROC3	ECETOC TRA	Sampling from reactors	Inhalation	0 mg/m ³	0
PROC8b		Unloading of IBC containers or drums.	Inhalation	0,1 mg/m ³	0,26
PROC8b	ART	Loading of bulk transport.	Long term inhalation	0,1 mg/m ³	0,26
PROC15	ART		Long term inhalation	0 mg/m ³	0
PROC9	ART	Indoor	Long term inhalation	0,03 mg/m ³	0,06
PROC9	ART	Outdoor	Long term inhalation	0,01 mg/m ³	0,03

ERC2: Formulation of preparations

PROC15: Use as laboratory reagent

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

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)

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

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1. Short title of Exposure Scenario: Industrial use of food beverage and pharmaceutical products, Spraying (automatic/robotic)

Main User Groups	: SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites
Environmental Release Categories	: ERC4: Use of non-reactive processing aid at industrial site (no inclusion into or onto article)
Process categories	 PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non- dedicated facilities PROC7: Industrial spraying
Further information	: ,The exposure scenario covers:, Amines, coco alkyl

2.1 Contributing scenario controlling environmental exposure for: ERC4: Use of nonreactive processing aid at industrial site (no inclusion into or onto article)

Product characteristics Concentration of the Substance in Mixture/Article	: Whole preparation up to 20%. After dilution prior to use up to 0.2%.
Amount used	
Amount used	: 0,6 ton(s)/year
Fraction of Regional tonnage used locally:	: 100 %
Maximum daily site tonnage (kg/day):	: 2,7 kg/day
(Msafe)	: 2,8 kg/day
Environment factors not influenced	ov risk management

Dilution Factor (River)	: 1 000
Remarks	: Local freshwater dilution factor

Other given operational conditions affecting environmental exposure

Number of emission days per year Emission or Release Factor: Water Remarks	:	100 % AISE SPERC 4.1.v1, Where other risk management measures/operational conditions are adopted, then users
		should ensure that risks are managed to at least equivalent levels.

Technical conditions and measures / Organizational measures

Remarks	: Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be
	necessary to define appropriate site-specific risk management
	measures.

Conditions and measures related to municipal sewage treatment plant

Type of Sewage Treatment Plant Percentage removed from waste water	: Sewage treatment plant : 99,8 %
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2.2 Contributing scenario controlling worker exposure for: PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities

Wear suitable gloves (tested to EN37 98 %) Additional good practice advice bey Additional good practice advice	 Personal protection, hygiene and health evaluation r4), coverall and eye protection. (Effectiveness (of a measure): rond the REACH Chemical Safety Assessment Open handling of the substance, such as taking process samples requires use of respiratory protection equipment with a gas cartridge for organic substances. Iling worker exposure for: PROC7: Industrial spraying Spraying (automatic/robotic) Covers percentage substance in the product up to 0.20%. Iiquid > 4 h <= 240 days/year > 4 h
Wear suitable gloves (tested to EN37 98 %) Additional good practice advice bey Additional good practice advice 2.3 Contributing scenario contro Activity Product characteristics Concentration of the Substance in Mixture/Article Physical Form (at time of use) Frequency and duration of use Duration of the acitivity Frequency of use	 r4), coverall and eye protection. (Effectiveness (of a measure): rond the REACH Chemical Safety Assessment Open handling of the substance, such as taking process samples requires use of respiratory protection equipment with a gas cartridge for organic substances. reling worker exposure for: PROC7: Industrial spraying Spraying (automatic/robotic) Covers percentage substance in the product up to 0.20%. liquid > 4 h <= 240 days/year
Wear suitable gloves (tested to EN37 98 %) Additional good practice advice bey Additional good practice advice 2.3 Contributing scenario contro Activity Product characteristics Concentration of the Substance in Mixture/Article Physical Form (at time of use) Frequency and duration of use Duration of the acitivity	 r4), coverall and eye protection. (Effectiveness (of a measure): rond the REACH Chemical Safety Assessment Open handling of the substance, such as taking process samples requires use of respiratory protection equipment with a gas cartridge for organic substances. reling worker exposure for: PROC7: Industrial spraying Spraying (automatic/robotic) Covers percentage substance in the product up to 0.20%. liquid > 4 h
Wear suitable gloves (tested to EN37 98 %) Additional good practice advice bey Additional good practice advice 2.3 Contributing scenario contro Activity Product characteristics Concentration of the Substance in Mixture/Article Physical Form (at time of use) Frequency and duration of use	 r4), coverall and eye protection. (Effectiveness (of a measure): rond the REACH Chemical Safety Assessment Open handling of the substance, such as taking process samples requires use of respiratory protection equipment with a gas cartridge for organic substances. olling worker exposure for: PROC7: Industrial spraying Spraying (automatic/robotic) Covers percentage substance in the product up to 0.20%. liquid
Wear suitable gloves (tested to EN37 98 %) Additional good practice advice bey Additional good practice advice 2.3 Contributing scenario contro Activity Product characteristics Concentration of the Substance in Mixture/Article Physical Form (at time of use)	 r4), coverall and eye protection. (Effectiveness (of a measure): rond the REACH Chemical Safety Assessment Open handling of the substance, such as taking process samples requires use of respiratory protection equipment with a gas cartridge for organic substances. Illing worker exposure for: PROC7: Industrial spraying Spraying (automatic/robotic) Covers percentage substance in the product up to 0.20%.
Wear suitable gloves (tested to EN37 98 %) Additional good practice advice bey Additional good practice advice 2.3 Contributing scenario contro Activity Product characteristics Concentration of the Substance in Mixture/Article	 r4), coverall and eye protection. (Effectiveness (of a measure): rond the REACH Chemical Safety Assessment Open handling of the substance, such as taking process samples requires use of respiratory protection equipment with a gas cartridge for organic substances. Illing worker exposure for: PROC7: Industrial spraying Spraying (automatic/robotic) Covers percentage substance in the product up to 0.20%.
Wear suitable gloves (tested to EN37 98 %) Additional good practice advice bey Additional good practice advice 2.3 Contributing scenario contro Activity Product characteristics Concentration of the Substance in	 74), coverall and eye protection. (Effectiveness (of a measure): 70 ond the REACH Chemical Safety Assessment Open handling of the substance, such as taking process samples requires use of respiratory protection equipment with a gas cartridge for organic substances. 10 Iling worker exposure for: PROC7: Industrial spraying Spraying (automatic/robotic)
Wear suitable gloves (tested to EN37 98 %) Additional good practice advice bey Additional good practice advice 2.3 Contributing scenario contro Activity Product characteristics	 74), coverall and eye protection. (Effectiveness (of a measure): 70 ond the REACH Chemical Safety Assessment Open handling of the substance, such as taking process samples requires use of respiratory protection equipment with a gas cartridge for organic substances. 10 Iling worker exposure for: PROC7: Industrial spraying Spraying (automatic/robotic)
Wear suitable gloves (tested to EN37 98 %) Additional good practice advice bey Additional good practice advice 2.3 Contributing scenario contro Activity	 74), coverall and eye protection. (Effectiveness (of a measure): 74), coverall and eye protection. (Effectiveness (of a measure): 75 76 76
Wear suitable gloves (tested to EN37 98 %) Additional good practice advice bey Additional good practice advice 2.3 Contributing scenario contro	 74), coverall and eye protection. (Effectiveness (of a measure): 74), coverall and eye protection. (Effectiveness (of a measure): 75 76 76
Wear suitable gloves (tested to EN37 98 %) Additional good practice advice bey Additional good practice advice	 74), coverall and eye protection. (Effectiveness (of a measure): 74), coverall and eye protection. (Effectiveness (of a measure): 75 76 77 76 77 76 77 76 76
Wear suitable gloves (tested to EN37 98 %) Additional good practice advice bey	 r4), coverall and eye protection. (Effectiveness (of a measure): rond the REACH Chemical Safety Assessment : Open handling of the substance, such as taking process samples requires use of respiratory protection equipment with
Wear suitable gloves (tested to EN37 98 %) Additional good practice advice bey	74), coverall and eye protection. (Effectiveness (of a measure):
Wear suitable gloves (tested to EN37	
	t /limit releases, dispersion and exposure ccupational hygiene is implemented, Ensure operatives are
Local exhaust (Effectiveness (of a me	easure): 30 %)
Technical conditions and measures Transfer via enclosed lines.	
Other operational conditions affecting Outdoor / Indoor	ng workers exposure : Indoor use
Breathing volume	: 10 m3/ 8h shift
Human factors not influenced by ris	
Exposure duration	: < 15 min
Duration of the acitivity Frequency of use	: <15 min : <= 240 days/year
Frequency and duration of use	45 min
	: liquid
Physical Form (at time of use)	. liquid
Mixture/Article Physical Form (at time of use)	
Concentration of the Substance in Mixture/Article	: Covers percentage substance in the product up to 20%.
Mixture/Article	Formulation of preparationsCovers percentage substance in the product up to 20%.

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Human factors not influenced by risk management

	non management
Breathing volume	: 10 m3/ 8h shift

Other operational conditions affecting workers exposure

Outdoor / Indoor	: Indoor use
Ventilation rate per hour	: 1
Remarks	: Any, Room size
Distance from the worker to the emission source	: > 1 meter(s)
Application rate	: 0,3 - 3 L/min
	: , Spraying with no or low compressed air use

Technical conditions and measures

Transfer via enclosed lines.

Provide extraction ventilation at points where emissions occur. (Effectiveness (of a measure): 95 %)

Organisational measures to prevent /limit releases, dispersion and exposure

Assumes a good basic standard of occupational hygiene is implemented, Ensure operatives are trained to minimise exposures.

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

Wear suitable gloves (tested to EN374), coverall and eye protection. (Effectiveness (of a measure): 98 %)

Additional good practice advice beyond the REACH Chemical Safety Assessment

Additional good practice advice : Open handling of the substance, such as taking process samples requires use of respiratory protection equipment with a gas cartridge for organic substances.

3. Exposure estimation and reference to its source

Environment

Contributing Scenario	Exposure Assessment Method	Specific conditions	Compartment	Value	Level of Exposure	RCR
ERC4			Fresh water		0,000258 mg/L	0,991
			Fresh water sediment		0,037 mg/kg wet weight	0,87
			Marine water		0,0000249 mg/L	0,956
			Marine sediment		0,0036 mg/kg wet weight	0,84
			Sewage treatment plant		0,0023 mg/L	0,004
			Soil		0,066 mg/kg wet weight	0,058
			Grassland		0,023 mg/kg wet weight	0,02

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Workers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value	Level of Exposure	RCR
PROC8a	ECETOC TRA		Long term inhalation	0,346 mg/m3	0,91
PROC7	ART		Long term inhalation	0,012 mg/m3	0,03

ERC4: Use of non-reactive processing aid at industrial site (no inclusion into or onto article) PROC7: Industrial spraying

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

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

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1. Short title of Exposure Scenario: Professional use of Food beverage and pharmacos products, Chain maintenance product, Spraying

Main User Groups Environmental Release Categories Process categories	 SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen) ERC8a: Wide dispersive indoor use of processing aids in open systems PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities PROC11: Non-industrial spraying
Further information	: ,The exposure scenario covers:, Amines, coco alkyl

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

Product characteristics	5
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Concentration of the Substance in Mixture/Article	: Whole preparation up to 2.5%. After dilution prior to use up to 0.2%.

Amount used

Activity

Amount used

: 20 ton(s)/year

Other given operational conditions aff Number of emission days per year Emission or Release Factor: Water Remarks	365
Technical conditions and measures / Remarks	Drganizational measures Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.
Conditions and measures related to m Type of Sewage Treatment Plant Percentage removed from waste water	

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

: Formulation of preparations

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Product character	ristics			
Concentration of Mixture/Article	the Substance in	:	Covers percentage substance in the product u	p to 2.5%
Physical Form (a	at time of use)	:	liquid	
Frequency and du		_		
Duration of the a Frequency of us	•		< 60 min <= 240 days/year	
Human factors no	t influenced by risk	n	nanagement	
Breathing volume	Э	:	10 m3/ 8h shift	
Other operational Outdoor / Indoor	conditions affectin	-	workers exposure Indoor use	
Technical condition	ons and measures osed lines.			
	basic standard of oc		mit releases, dispersion and exposure apational hygiene is implemented, Ensure operational for the second second second second second second second s	tives are
			and eye protection, hygiene and health evaluation and eye protection. (Effectiveness (of a measured and eye protection).	
	practice advice beyo practice advice		d the REACH Chemical Safety Assessment Open handling of the substance, such as takin samples requires use of respiratory protection a gas cartridge for organic substances.	
2.3 Contributing spraying	scenario control	lin	ng worker exposure for: PROC11: Non-ir	dustrial
Activity		:	Manual	
Product character Concentration of Mixture/Article	r istics the Substance in	:	Covers percentage substance in the product u	p to 0.20%.
Physical Form (a	at time of use)	:	liquid	
Frequency and du				
Duration of the a Frequency of us			40 min <= 240 days/year	
Human factors no Breathing volume	et influenced by risk		nanagement 10 m3/ 8h shift	

Other operational conditions affecting workers exposure

Outdoor / Indoor	: Indoor use
Ventilation rate per hour	: 1
Distance from the worker to the emission source	: <1 meter(s)
Application rate	: 0,3 - 3 L/min
	: , Spraying with no or low compressed air use, Spraying horizontal or downward

Technical conditions and measures

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Transfer via enclosed lines.

Organisational measures to prevent /limit releases, dispersion and exposure

Assumes a good basic standard of occupational hygiene is implemented, Ensure operatives are trained to minimise exposures.

Conditions and measures related to personal protection, hygiene and health evaluation Wear suitable gloves (tested to EN374) and eye protection. (Effectiveness (of a measure): 80 %)

Additional good practice advice beyond the REACH Chemical Safety Assessment

Additional good practice advice

: Open handling of the substance, such as taking process samples requires use of respiratory protection equipment with a gas cartridge for organic substances.

3. Exposure estimation and reference to its source

Environment

Contributing Scenario	Exposure Assessment Method	Specific conditions	Compartment	Value	Level of Exposure	RCR
ERC8a			Fresh water		0,00001 mg/L	0,039
			Fresh water		0,00145	0,037
			sediment		mg/kg wet	
					weight	
			Marine water		0,000001	0,003
					mg/L	
			Marine		0,000013	0,0028
			sediment		mg/kg wet	
					weight	
			Sewage		0,0000014	0,000003
			treatment		mg/L	
			plant			
			Soil		0,0000754	0,000009
					mg/kg wet	
					weight	
			Grassland		0,0000505	0,000006
					mg/kg wet	
					weight	

Workers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value	Level of Exposure	RCR
PROC8a	ECETOC TRA v2.0 Worker		Long term inhalation	0,044 mg/m3	0,116
			Long term dermal	0,069 mg/kg wet weight	0,762
PROC11	ART		Long term inhalation	0,073 mg/m3	0,192
			Long term dermal	0,043 mg/kg bw/day	0,476

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	Wide dispersive indeer use of pres	essing side in onen systems	
ERC8a:	Wide dispersive indoor use of proc	essing alos in open systems	
PROC1	1: Non-industrial spraving		

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

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

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1. Short title of Exposure Scenario: Industrial use of vehicle cleaning products

Main User Groups	: SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites
Environmental Release Categories	: ERC4: Use of non-reactive processing aid at industrial site (no inclusion into or onto article)
Process categories	 PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises PROC7: Industrial spraying PROC8b: Transfer of substance or preparation (charging/discharging) from/ to vessels/ large containers at dedicated facilities PROC10: Roller application or brushing
Further information	: ,The exposure scenario covers:, Amines, coco alkyl

2.1 Contributing scenario controlling environmental exposure for: ERC4: Use of non-reactive processing aid at industrial site (no inclusion into or onto article)

Product characteristics

Concentration of the Substance in Mixture/Article	: Whole preparation up to 2.5%. After dilution prior to use up to 0.2%.	
Amount used		
Amount used	: 0,6 ton(s)/year	
Fraction of Regional tonnage used locally:	: 100 %	
Maximum daily site tonnage (kg/day):	: 6,7 kg/day	
(Msafe)	: 2,8 kg/day	

Other given operational conditions affecting environmental exposure

other given operational conditions a	
Number of emission days per year	: 220
Emission or Release Factor: Water	: 100 %
Remarks	: AISE SPERC 4.1.v1, Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.
Technical conditions and measures	/ Organizational measures
Remarks	: Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.
Conditions and measures related to	municipal sewage treatment plant

Conditions and measures related	to municipal sewage treatment plant
Type of Sewage Treatment Plant	: Sewage treatment plant

Type of Sewage Treatment Plant	: Sewage trea
Percentage removed from waste	: 99 %
water	

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

Activity	: Semi automated process. (e.g.: semi automatic application of floor care and maintenance products)
Product characteristics	
Concentration of the Substance in	: Covers percentage substance in the product up to 0.20%.
Mixture/Article	
Physical Form (at time of use)	: liquid
Frequency and duration of use	
Duration of the acitivity	: >4 h
Frequency of use	: <= 240 days/year
Human factors not influenced by ris	k management
Breathing volume	: 10 m3/ 8h shift
breathing widne	
Other operational conditions affecti	ng workers exposure
Outdoor / Indoor	: Indoor use
Ventilation rate per hour	: 1
·	
Assumes a good basic standard of o	t /limit releases, dispersion and exposure ccupational hygiene is implemented, Ensure operatives are
trained to minimise exposures.	
2.3 Contributing scenario contro	Iling worker exposure for: PROC7: Industrial spraying
	<u> </u>
Activity	Illing worker exposure for: PROC7: Industrial spraying : Spraying (automatic/robotic)
Activity Product characteristics	: Spraying (automatic/robotic)
Activity	<u> </u>
Activity Product characteristics	: Spraying (automatic/robotic)
Activity Product characteristics Concentration of the Substance in	: Spraying (automatic/robotic)
Activity Product characteristics Concentration of the Substance in Mixture/Article Physical Form (at time of use)	 Spraying (automatic/robotic) Covers percentage substance in the product up to 0.20%.
Activity Product characteristics Concentration of the Substance in Mixture/Article Physical Form (at time of use) Frequency and duration of use	 Spraying (automatic/robotic) Covers percentage substance in the product up to 0.20%. liquid
Activity Product characteristics Concentration of the Substance in Mixture/Article Physical Form (at time of use) Frequency and duration of use Duration of the acitivity	 Spraying (automatic/robotic) Covers percentage substance in the product up to 0.20%. liquid 360 min
Activity Product characteristics Concentration of the Substance in Mixture/Article Physical Form (at time of use) Frequency and duration of use	 Spraying (automatic/robotic) Covers percentage substance in the product up to 0.20%. liquid
Activity Product characteristics Concentration of the Substance in Mixture/Article Physical Form (at time of use) Frequency and duration of use Duration of the acitivity Frequency of use	 Spraying (automatic/robotic) Covers percentage substance in the product up to 0.20%. liquid 360 min <= 240 days/year
Activity Product characteristics Concentration of the Substance in Mixture/Article Physical Form (at time of use) Frequency and duration of use Duration of the acitivity Frequency of use Human factors not influenced by ris	 Spraying (automatic/robotic) Covers percentage substance in the product up to 0.20%. liquid 360 min <= 240 days/year k management
Activity Product characteristics Concentration of the Substance in Mixture/Article Physical Form (at time of use) Frequency and duration of use Duration of the acitivity Frequency of use	 Spraying (automatic/robotic) Covers percentage substance in the product up to 0.20%. liquid 360 min <= 240 days/year
Activity Product characteristics Concentration of the Substance in Mixture/Article Physical Form (at time of use) Frequency and duration of use Duration of the acitivity Frequency of use Human factors not influenced by ris	 Spraying (automatic/robotic) Covers percentage substance in the product up to 0.20%. liquid 360 min <= 240 days/year k management 10 m3/ 8h shift
Activity Product characteristics Concentration of the Substance in Mixture/Article Physical Form (at time of use) Frequency and duration of use Duration of the acitivity Frequency of use Human factors not influenced by rise Breathing volume	 Spraying (automatic/robotic) Covers percentage substance in the product up to 0.20%. liquid 360 min <= 240 days/year k management 10 m3/ 8h shift
Activity Product characteristics Concentration of the Substance in Mixture/Article Physical Form (at time of use) Frequency and duration of use Duration of the acitivity Frequency of use Human factors not influenced by ris Breathing volume Other operational conditions affecti Outdoor / Indoor	 Spraying (automatic/robotic) Covers percentage substance in the product up to 0.20%. liquid 360 min <= 240 days/year k management 10 m3/ 8h shift ng workers exposure
Activity Product characteristics Concentration of the Substance in Mixture/Article Physical Form (at time of use) Frequency and duration of use Duration of the acitivity Frequency of use Human factors not influenced by ris Breathing volume Other operational conditions affecti Outdoor / Indoor Ventilation rate per hour	 Spraying (automatic/robotic) Covers percentage substance in the product up to 0.20%. liquid 360 min <= 240 days/year k management 10 m3/ 8h shift ng workers exposure Indoor use 1
Activity Product characteristics Concentration of the Substance in Mixture/Article Physical Form (at time of use) Frequency and duration of use Duration of the acitivity Frequency of use Human factors not influenced by ris Breathing volume Other operational conditions affecti Outdoor / Indoor	 Spraying (automatic/robotic) Covers percentage substance in the product up to 0.20%. liquid 360 min <= 240 days/year k management 10 m3/ 8h shift ng workers exposure Indoor use
Activity Product characteristics Concentration of the Substance in Mixture/Article Physical Form (at time of use) Frequency and duration of use Duration of the acitivity Frequency of use Human factors not influenced by rist Breathing volume Other operational conditions affectit Outdoor / Indoor Ventilation rate per hour Distance from the worker to the emission source	 Spraying (automatic/robotic) Covers percentage substance in the product up to 0.20%. liquid 360 min <= 240 days/year k management 10 m3/ 8h shift ng workers exposure Indoor use 1
Activity Product characteristics Concentration of the Substance in Mixture/Article Physical Form (at time of use) Frequency and duration of use Duration of the acitivity Frequency of use Human factors not influenced by ris Breathing volume Other operational conditions affecti Outdoor / Indoor Ventilation rate per hour Distance from the worker to the	 Spraying (automatic/robotic) Covers percentage substance in the product up to 0.20%. liquid 360 min <= 240 days/year k management 10 m3/ 8h shift ng workers exposure Indoor use 1 < 1 meter(s) 0,3 - 3 L/min
Activity Product characteristics Concentration of the Substance in Mixture/Article Physical Form (at time of use) Frequency and duration of use Duration of the acitivity Frequency of use Human factors not influenced by rist Breathing volume Other operational conditions affectit Outdoor / Indoor Ventilation rate per hour Distance from the worker to the emission source	 Spraying (automatic/robotic) Covers percentage substance in the product up to 0.20%. liquid 360 min <= 240 days/year k management 10 m3/ 8h shift ng workers exposure Indoor use 1 < 1 meter(s)

Organisational measures to prevent /limit releases, dispersion and exposure

Assumes a good basic standard of occupational hygiene is implemented, Ensure operatives are trained to minimise exposures.

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Conditions and measures related to personal protection, hygiene and health evaluation Wear suitable gloves (tested to EN374) and eye protection. (Effectiveness (of a measure): 80 %)

DE / EN

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

Activity Product characteristics Concentration of the Substance in Mixture/Article Physical Form (ct time of upp)	 Formulation of preparations Covers percentage substance in the product up to 2.5%
Physical Form (at time of use)	: liquid
Frequency and duration of use Duration of the acitivity	: < 60 min
Frequency of use	: <= 240 days/year
Human factors not influenced by ris	k management
Breathing volume	: 10 m3/ 8h shift
Other operational conditions affectin Outdoor / Indoor	ng workers exposure : Indoor use
	/limit releases, dispersion and exposure ccupational hygiene is implemented, Ensure operatives are
	personal protection, hygiene and health evaluation (4) and eye protection. (Effectiveness (of a measure): 90 %)
2.5 Contributing scenario contro or brushing	lling worker exposure for: PROC10: Roller application
Activity	: Spraying, Wiping
Product characteristics Concentration of the Substance in Mixture/Article	: Covers percentage substance in the product up to 0.20%.

Frequency and duration of use

Duration of the acitivity	: 360 min
Frequency of use	: <= 240 days/year

Other operational conditions affecting workers exposureOutdoor / Indoor: Indoor useVentilation rate per hour: 1

Distance from the worker to the	: < 1 meter(s)
emission source	
Spreading of liquids on surfaces or	: > 3 m2/hour
work pieces	

Organisational measures to prevent /limit releases, dispersion and exposure

Assumes a good basic standard of occupational hygiene is implemented, Ensure operatives are trained to minimise exposures.

Environment

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

Wear suitable gloves (tested to EN374) and eye protection. (Effectiveness (of a measure): 80 %)

3. Exposure estimation and reference to its source

Contributing Scenario	Exposure Assessment Method	Specific conditions	Compartment	Value	Level of Exposure	RCR
ERC4	EUSES		Fresh water		0,000258 mg/L	0,991
			Fresh water sediment		0,037 mg/kg wet weight	0,87
			Marine water		0,0000249 mg/L	0,956
			Marine sediment		0,0036 mg/kg wet weight	0,84
			Sewage treatment plant		0,0023 mg/L	0,004
			Soil		0,066 mg/kg wet weight	0,058
			Grassland		0,023 mg/kg wet weight	0,02

Workers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value	Level of Exposure	RCR
PROC4	ECETOC TRA v2.0 Worker		Long term inhalation	0,11 mg/m3	0,29
			Long term dermal	0,0137 mg/kg bw/day	0,15
PROC7	ART		Long term inhalation	0,066 mg/m3	0,174
			Long term dermal	0,0171 mg/kg bw/day	0,19
PROC8b	ECETOC TRA v2.0 Worker		Long term inhalation	0,044 mg/m3	0,12
			Long term dermal	0,017 mg/kg bw/day	0,19
PROC10	ART		Long term inhalation	0,066 mg/m3	0,0174
			Long term dermal	0,0109 mg/kg bw/day	0,122

ERC4: Use of non-reactive processing aid at industrial site (no inclusion into or onto article) PROC10: Roller application or brushing

PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises PROC7: Industrial spraying

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

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

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1. Short title of Exposure Scenario: Professional use of vehicle cleaning products

Main User Groups Environmental Release Categories	 SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen) ERC8a: Wide dispersive indoor use of processing aids in open systems
Process categories	 PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non- dedicated facilities PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises PROC10: Roller application or brushing PROC11: Non-industrial spraying
Further information	: ,The exposure scenario covers:, Amines, coco alkyl

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

Product characteristics

Concentration of the Substance in Mixture/Article	: Whole preparation up to 2.5%. After dilution prior to use up to 0.2%.	
Amount used		
Amount used	: 20 ton(s)/year	
Fraction of Regional tonnage used locally:	: 0,08 %	
Maximum daily site tonnage (kg/day):	: 6,7 kg/day	
(Msafe)	: 2,8 kg/day	

Other given operational conditions affecting environmental exposure

Other given operational conditions a	anecting environmental exposure
Number of emission days per year	: 365
Emission or Release Factor: Water	: 100 %
Remarks	: AISE SPERC 8a.1.a.v1, Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.
Technical conditions and measures	/ Organizational measures
Remarks	: Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.
Conditions and measures related to	municipal sewage treatment plant

Version 1

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

Product characteristics Concentration of the Substance in : Covers percentage substance in the product up to 2.8 Mixture/Article Physical Form (at time of use) : liquid Frequency and duration of use Duration of the acitivity : < 60 min Frequency of use : <= 240 days/year Human factors not influenced by risk management Breathing volume : 10 m3/ 8h shift Other operational conditions affecting workers exposure Outdoor / Indoor : Indoor use Organisational measures to prevent /limit releases, dispersion and exposure Assumes a good basic standard of occupational hygiene is implemented, Ensure operatives a trained to minimise exposures. Conditions and measures related to personal protection, hygiene and health evaluation Wear suitable gloves (tested to EN374) and eye protection. (Effectiveness (of a measure): 90 2.3 Contributing scenario controlling worker exposure for: PROC4: Use in batch other process (synthesis) where opportunity for exposure arises
Physical Form (at time of use) : liquid Frequency and duration of use Duration of the acitivity : < 60 min
Duration of the acitivity : < 60 min
Frequency of use : <= 240 days/year
Breathing volume : 10 m3/ 8h shift Other operational conditions affecting workers exposure Outdoor / Indoor : Indoor use Organisational measures to prevent /limit releases, dispersion and exposure Assumes a good basic standard of occupational hygiene is implemented, Ensure operatives a trained to minimise exposures. Conditions and measures related to personal protection, hygiene and health evaluation Wear suitable gloves (tested to EN374) and eye protection. (Effectiveness (of a measure): 90 2.3 Contributing scenario controlling worker exposure for: PROC4: Use in batch
Outdoor / Indoor : Indoor use Organisational measures to prevent /limit releases, dispersion and exposure Assumes a good basic standard of occupational hygiene is implemented, Ensure operatives a trained to minimise exposures. Conditions and measures related to personal protection, hygiene and health evaluation Wear suitable gloves (tested to EN374) and eye protection. (Effectiveness (of a measure): 90 2.3 Contributing scenario controlling worker exposure for: PROC4: Use in batch
Assumes a good basic standard of occupational hygiene is implemented, Ensure operatives a trained to minimise exposures. Conditions and measures related to personal protection, hygiene and health evaluation Wear suitable gloves (tested to EN374) and eye protection. (Effectiveness (of a measure): 90 2.3 Contributing scenario controlling worker exposure for: PROC4: Use in batch
Wear suitable gloves (tested to EN374) and eye protection. (Effectiveness (of a measure): 90 2.3 Contributing scenario controlling worker exposure for: PROC4: Use in batch
other process (synthesis) where opportunity for exposure arises
Activity : Semi automated process. (e.g.: semi automatic applic floor care and maintenance products)
Product characteristics
Concentration of the Substance in : Covers percentage substance in the product up to 0.2 Mixture/Article
Physical Form (at time of use) : liquid
Frequency and duration of use
Duration of the acitivity : > 4 h
Frequency of use : <= 240 days/year
Human factors not influenced by risk management Breathing volume : 10 m3/ 8h shift
Breathing volume : 10 m3/ 8h shift Other operational conditions affecting workers exposure
Breathing volume : 10 m3/8h shift

trained to minimise exposures.

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2.4 Contributing scenario controlling worker exposure for: PROC10: Roller application or brushing

Activity Product characteristics	: Spraying, Wiping, Manual				
Concentration of the Substance in Mixture/Article					
Physical Form (at time of use)	: liquid				
Frequency and duration of use					
Duration of the acitivity	: 360 min				
Frequency of use	: <= 240 days/year				
Human factors not influenced by risk management					
Breathing volume	: 10 m3/ 8h shift				
Other operational conditions affection	ng workers exposure				
Outdoor / Indoor	: Indoor use				
Ventilation rate per hour					
Distance from the worker to the emission source	: <1 meter(s)				
Spreading of liquids on surfaces or work pieces	: > 3 m2/hour				
Organisational measures to prevent /limit releases, dispersion and exposure Assumes a good basic standard of occupational hygiene is implemented, Ensure operatives are trained to minimise exposures.					

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

Wear suitable gloves (tested to EN374) and eye protection. (Effectiveness (of a measure): 80 %)

2.5 Contributing scenario controlling worker exposure for: PROC11: Non-industrial spraying

Activity Product characteristics	:	Manual			
Concentration of the Substance in Mixture/Article	:	Covers percentage substance in the product up to 0.20%.			
Physical Form (at time of use)	:	liquid			
Frequency and duration of use					
Duration of the acitivity	:	40 min			
Frequency of use	:	<= 240 days/year			
Human factors not influenced by risk management					
Breathing volume	:	10 m3/ 8h shift			
Other operational conditions affecting workers exposure					
Outdoor / Indoor	:	Indoor use			
Ventilation rate per hour	:	1			
Distance from the worker to the emission source	:	< 1 meter(s)			
Application rate	:	0,3 - 3 L/min			
	:	, Spraying with no or low compressed air use, Spraying			

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horizontal or downward

Organisational measures to prevent /limit releases, dispersion and exposure

Assumes a good basic standard of occupational hygiene is implemented, Ensure operatives are trained to minimise exposures.

Conditions and measures related to personal protection, hygiene and health evaluation Wear suitable gloves (tested to EN374) and eye protection. (Effectiveness (of a measure): 80 %)

3. Exposure estimation and reference to its source

Environment

Contributing Scenario	Exposure Assessment Method	Specific conditions	Compartment	Value	Level of Exposure	RCR
ERC8a	EUSES		Fresh water		0,00001 mg/L	0,039
			Fresh water sediment		0,145 mg/kg wet weight	0,037
			Marine water		0,0000001 mg/L	0,003
			Marine sediment		0,000013 mg/kg wet weight	0,0028
			Sewage treatment plant		0,0000014 mg/L	0,000003
			Soil		0,0000754 mg/kg wet weight	0,00009
			Grassland		0,0000505 mg/kg wet weight	0,000006

Workers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value	Level of Exposure	RCR
PROC8a	ECETOC TRA v2.0 Worker		Long term inhalation	0,044 mg/m3	0,116
			Long term dermal	0,069 mg/kg bw/day	0,762
PROC4	ECETOC TRA v2.0 Worker		Long term inhalation	0,11 mg/m3	0,29
			Long term dermal	0,0137 mg/kg bw/day	0,15
PROC10	ART		Long term inhalation	0,0067 mg/m3	0,0176
			Long term dermal	0,0548 mg/kg bw/day	0,609
PROC11	ART		Long term inhalation	0,073 mg/m3	0,192

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		Long term dermal	0,0428 mg/kg 0,476 bw/day

ERC8a: Wide dispersive indoor use of processing aids in open systems PROC10: Roller application or brushing PROC11: Non-industrial spraying

PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities

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