

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

ARMEEN CD

Version 1

Revision Date 12.04.2019

Print Date 08.02.2021

DE / EN

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Trade name : ARMEEN CD

Substance name : Amines, C12-18-alkyl

Index-No. : 612-285-00-4

REACH Registration Number : 01-2119473798-17-0001

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

Use of the Substance/Mixture : Specific use(s): Refer to attached exposure scenario Annex.

1.3 Details of the supplier of the safety data sheet

Company : Nouryon Surface Chemistry AB
Stenunge Alle 3
SE 444 85 Stenungsund
Sweden

Telephone : +4630385000

Telefax : +4630384659

E-mail address : Regulatory.Affairs@nouryon.com

1.4 Emergency telephone number

Emergency telephone number : 020 99 60 00 Kemiakuten, SE +31 57 06 79 211 24 hours emergency response number

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture


Classification (REGULATION (EC) No 1272/2008)

Acute toxicity, 4, H302
 Skin corrosion, 1B, H314
 Serious eye damage, 1, H318
 Specific target organ toxicity - single exposure, 3, Respiratory system, H335
 Specific target organ toxicity - repeated exposure, 2, Liver, Gastrointestinal tract, Immune system, H373
 Aspiration hazard, 1, H304
 Short-term (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	:	<table border="0"> <tr> <td style="vertical-align: top;">H302 H304</td> <td style="vertical-align: top;">Harmful if swallowed. May be fatal if swallowed and enters airways.</td> </tr> <tr> <td style="vertical-align: top;">H314</td> <td style="vertical-align: top;">Causes severe skin burns and eye damage.</td> </tr> <tr> <td style="vertical-align: top;">H335 H373</td> <td style="vertical-align: top;">May cause respiratory irritation. May cause damage to organs (Liver, Gastrointestinal tract, Immune system) through prolonged or repeated exposure.</td> </tr> <tr> <td style="vertical-align: top;">H410</td> <td style="vertical-align: top;">Very toxic to aquatic life with long lasting effects.</td> </tr> </table>	H302 H304	Harmful if swallowed. May be fatal if swallowed and enters airways.	H314	Causes severe skin burns and eye damage.	H335 H373	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.		
H302 H304	Harmful if swallowed. May be fatal if swallowed and enters airways.											
H314	Causes severe skin burns and eye damage.											
H335 H373	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	:	<table border="0"> <tr> <td style="vertical-align: top;">Prevention: P260 P280</td> <td style="vertical-align: top;">Do not breathe mist, vapours or spray. Wear protective gloves/ protective clothing/ eye protection/ face protection.</td> </tr> <tr> <td style="vertical-align: top;">Response: P301 + P310</td> <td style="vertical-align: top;">IF SWALLOWED: Immediately call a POISON CENTER/doctor.</td> </tr> <tr> <td style="vertical-align: top;">P301 + P330 + P331</td> <td style="vertical-align: top;">IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.</td> </tr> <tr> <td style="vertical-align: top;">P303 + P361 + P353</td> <td style="vertical-align: top;">IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.</td> </tr> <tr> <td style="vertical-align: top;">P305 + P351 + P338 + P310</td> <td style="vertical-align: top;">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.</td> </tr> </table>	Prevention: P260 P280	Do not breathe mist, vapours or spray. Wear protective gloves/ protective clothing/ eye protection/ face protection.	Response: P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER/doctor.	P301 + P330 + P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.	P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.	P305 + P351 + P338 + 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.
Prevention: P260 P280	Do not breathe mist, vapours or spray. Wear protective gloves/ protective clothing/ eye protection/ face protection.											
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P305 + P351 + P338 + 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 hazards

No further data available.

PBT and vPvB assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

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 M-Factor (Acute): 10 M-Factor (Chronic): 10	>= 90 - <= 100

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

medium strength corticosteroids.

- In case of eye contact : In case of contact with eyes, rinse immediately with 0.5% acetic acid in water for a few minutes, followed by rinsing with plenty of water for as long as possible. Eyelids should be held away from the eyeball to ensure thorough rinsing. Get medical attention immediately. Continue to rinse during transport.
Remove contact lenses.
Protect unharmed eye.
Keep eye wide open while rinsing.
Small amounts splashed into eyes can cause irreversible tissue damage and blindness.
- If swallowed : Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Take victim immediately to hospital. Do not induce vomiting! May cause chemical burns in mouth and throat.

4.2 Most important symptoms and effects, both acute and delayed

- Symptoms : The symptoms and effects are as expected from the hazards as shown in section 2. No specific product related symptoms are known.
- Risks : Harmful if swallowed.
May be fatal if swallowed and enters airways.
Causes serious eye damage.
May cause respiratory irritation.
May cause damage to organs through prolonged or repeated exposure.
Causes severe burns.

4.3 Indication of any immediate medical attention and special treatment needed

- Treatment : Treat symptomatically.

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media

- Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
- Unsuitable extinguishing media : High volume water jet

5.2 Special hazards arising from the substance or mixture

- Specific hazards during firefighting / Specific hazards arising from the chemical : Treat as oil fire.
Do not use a solid water stream as it may scatter and spread fire.
Water spray may be ineffective unless used by experienced firefighters.
Do not allow run-off from fire fighting to enter drains or water courses.
- Combustion products : Carbon oxides

Nitrogen oxides (NO_x)

5.3 Advice for firefighters

- Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.
- Further information : Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

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.
If the product contaminates rivers and lakes or drains inform respective authorities.

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).
Keep in suitable, closed containers for disposal.

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 : Normal measures for preventive fire protection.

7.2 Conditions for safe storage, including any incompatibilities

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

place.
 Avoid elevated temperatures.
 Reacts with copper, aluminium, zinc and their alloys.

German storage class : Combustible, corrosive hazardous materials

Other data : No decomposition if stored and applied as directed.

7.3 Specific end use(s)

Specific use(s) : Refer to attached 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/m ³

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

Substance name	Environmental Compartment	Value
Cocoamine	Fresh water	0,00026 mg/l
	Marine water	0,000026 mg/l
	Sewage treatment plant	0,55 mg/l
	Fresh water 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 equipment

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

Eye protection	: Tightly fitting safety goggles Wear face-shield and protective suit for abnormal processing problems.
Skin and body protection	: Protective suit
Hygiene measures	: Avoid contact with skin, eyes and clothing. When using do not eat or drink. When using do not smoke. Dry-clean contaminated clothes before reuse.

Environmental exposure controls

General advice	: Do not flush into surface water or sanitary sewer system. If the product contaminates rivers and lakes or drains inform respective authorities.
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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

pH	: 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

Density	: 800 kg/m ³ at 25 °C
Relative density	: 0,80 at 20 °C
Water solubility	: insoluble
Solubility in other solvents	: Soluble in alcohols and hydrocarbons.
Partition coefficient: n-octanol/water	: No data available
Auto-ignition temperature	: 255 °C
Decomposition temperature	: No data available
Viscosity, dynamic	: 3,83 mPa.s at 20 °C
Viscosity, kinematic	: No data available
Explosive properties	: Not explosive
Oxidizing properties	: The substance 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

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Product information:

Acute toxicity	:	Harmful if swallowed.
Skin corrosion/irritation	:	Causes 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.
Further information	:	No further data available.

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

	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)
Genotoxicity in vivo	: In vivo micronucleus test Species: Rat Method: OECD Test Guideline 474 Result: negative Read-across (Analogy)
Carcinogenicity	: Not classified due to data which are conclusive although insufficient for classification.
Reproductive 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 system May cause damage to organs through prolonged or repeated exposure.
Aspiration 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

Read-across (Analogy)

Toxicity to algae	:	EC50: > 0,01 - 0,1 mg/l Exposure time: 72 h Species: Scenedesmus subspicatus (algae) Method: OECD Test Guideline 201
M-Factor (Acute)	:	10
M-Factor (Chronic)	:	10
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC: > 0,01 - 0,1 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea) Method: OECD Test Guideline 211

12.2 Persistence and degradability

Product information : No information available.

Components:

Cocoamine

Biodegradability : Result: Readily biodegradable.
Method: OECD Test Guideline 301D

12.3 Bioaccumulative potential

Product information : No information available.

Components:

Cocoamine

Bioaccumulation : Bioconcentration factor (BCF): > 500

12.4 Mobility in soil

Product information : No information available.

Components:

Cocoamine

Mobility : Can be leached out from soil.

12.5 Results of PBT and vPvB assessment

Product information:

PBT and vPvB assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Components:

Cocoamine

PBT and vPvB assessment : This substance is not considered to be a PBT (Persistent, Bioaccumulation, Toxic)
This substance is not considered to be vPvB (very Persistent nor very Bioaccumulating)

12.6 Other adverse effects

Product information : No information available.

Components:

Cocoamine

Biochemical Oxygen Demand (BOD) : >60% BOD, 28 days, Closed Bottle Test (OECD 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.
(Alkylamine)
IATA-DGR : 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 : II
Classification Code : C7
Hazard Identification Number : 80
Labels : 8
ADR

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Packing group : II
Classification Code : C7
Hazard Identification Number : 80
Labels : 8
Tunnel restriction code : (E)

RID

Packing group : II
Classification Code : C7
Hazard Identification Number : 80
Labels : 8

IMDG-Code

Packing group : II
Labels : 8
EmS Code : F-A, S-B

IATA-DGR

Packing instruction (cargo aircraft) : 855
Packing instruction (passenger aircraft) : 851
Packing instruction (LQ) : Y840
Packing group : II
Labels : 8

14.5 Environmental hazards

ADN

Environmentally hazardous : yes

ADR

Environmentally hazardous : yes

RID

Environmentally hazardous : yes

IMDG-Code

Marine pollutant : yes (Alkylamine)

IATA-DGR

Environmentally hazardous : yes

14.6 Special precautions for user

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.

		Quantity 1	Quantity 2
E1	ENVIRONMENTAL HAZARDS	100 t	200 t

Water contaminating class (Germany) : WGK 3 highly hazardous to water
Code Number: 1 885

- TA Luft List (Germany) :
- Total dust: Not applicable
 - Inorganic substances in powdered form: Not applicable
 - Inorganic substances in vapour or gaseous form: Not applicable
 - Organic Substances: Not applicable
 - Carcinogenic substances: Not applicable
 - Mutagenic: Not applicable
 - Toxic to reproduction: Not applicable

Notification status

- DSL : YES. All components of this product are on the Canadian DSL
AICS : YES. On the inventory, or in compliance with the inventory
NZIoC : YES. On the inventory, or in compliance with the inventory
ENCS : YES. On the inventory, or in compliance with the inventory
ISHL : YES. On the inventory, or in compliance with the inventory
KECI : YES. On the inventory, or in compliance with the inventory
PICCS : YES. On the inventory, or in compliance with the inventory
IECSC : YES. On the inventory, or in compliance with the inventory
TCSI : YES. On the inventory, or in compliance with the inventory
TSCA : YES. All chemical substances in this product are either listed on the TSCA Inventory or in compliance with a TSCA Inventory exemption.

For explanation of abbreviation see section 16.

15.2 Chemical safety assessment

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

SECTION 16: OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3.

- H302 : Harmful if swallowed.
H304 : 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

(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.

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

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

Main User Groups	:	SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites
Environmental Release Categories	:	ERC2: Formulation of preparations
Process categories	:	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)
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 : 387 kg
(kg/day):

Environment factors not influenced by risk management

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

Other given operational conditions affecting 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 : 0 %
Remarks : Formulation activity is assumed to be a predominantly enclosed process.

Technical conditions and measures / Organizational measures

Air : Filter (Effectiveness (of a measure): > 99 %)

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.

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

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 activity : 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

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 %)

2.3 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 activity : 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 : 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 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 activity : 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 %)

%)

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 : Road tanker/rail car

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 activity : > 240 min

Exposure duration : > 240 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 : 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 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 activity : > 240 min

Exposure duration : > 240 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.

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.

2.7 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 : Covers percentage substance in the product up to 0.1%.

Mixture/Article

Physical Form (at time of use) : liquid

Frequency and duration of use

Duration of the activity : > 240 min

Exposure duration : > 240 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 : 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
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/m ³	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

1. Short title of Exposure Scenario: Industrial and professional use of fertilizers.

Main User Groups	:	SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Environmental Release Categories	:	ERC8d: Wide dispersive outdoor use of processing aids in open systems
Chemical product category	:	PC12: Fertilizers
Process categories	:	PROC0: Other Process or activity
Further information	:	, The exposure scenario covers:, Amines, coco alkyl

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

Product characteristics

Concentration of the Substance in Mixture/Article : Covers percentage substance in the product up to 0.1%.

Amount used

: 12,6 mg/m²

Other given operational conditions affecting environmental exposure

Remarks : Soil depth for mixing: 0,2 m.

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

Additional good practice advice beyond the REACH Chemical Safety Assessment

Additional good practice advice : Ensure operatives are trained to minimise exposures., Read instructions before using.

2.2 Contributing scenario controlling worker exposure for: PROC0: Other Process or activity

Activity : Automated spreading of granules to soil.

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) : Solid, low dustiness

3. Exposure estimation and reference to its source

Environment

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Revision Date 12.04.2019

Print Date 08.02.2021

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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 quantitative 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 quantitative 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

1. Short title of Exposure Scenario: Use of intermediate

Main User Groups	:	SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites
Environmental Release Categories	:	ERC6a: Use of intermediate
Process categories	:	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 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: ERC6a: Use of intermediate

Amount used

Maximum daily site tonnage : 1530 kg
(kg/day):

Environment factors not influenced by risk management

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

Other given operational conditions affecting environmental exposure

Number of emission days per year : 300
Emission or Release Factor: Air : 0 %
Emission or Release Factor: Water : 0,001 ppm
Emission or Release Factor: Soil : 0 %
Remarks : Formulation activity is assumed to be a predominantly enclosed process.

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 : 100 %
water
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

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DE / EN

Activity : Batch processes at elevated temperatures, Short term exposure limit, Process sampling

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 activity : 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.
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 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

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 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 : 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 activity : > 240 min
Exposure duration : > 240 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 : 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.

2.5 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 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 activity : > 240 min

Exposure duration : > 240 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 %)

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 : 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 activity : > 240 min

Exposure duration : > 240 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 : 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

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

1. Short title of Exposure Scenario: Use of intermediate

Main User Groups	:	SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites
Environmental Release Categories	:	ERC1: Manufacture of the substance
Process categories	:	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: ERC1: Manufacture of the substance

Amount used

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

Environment factors not influenced by risk management

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

Other given operational conditions affecting environmental exposure

Number of emission days per year : 300
Emission or Release Factor: Air : 0 %
Emission or Release Factor: Water : 0,17 %
Emission or Release Factor: Soil : 0 %
Remarks : Formulation activity is assumed to be a predominantly enclosed process.

Technical conditions and measures / Organizational measures

Air : 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 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

Activity : Batch processes at elevated temperatures, Short term exposure limit, Process sampling

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 activity : 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.
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 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

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 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: 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 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 activity : > 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 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 %)

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

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 activity : > 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 : 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 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 activity : > 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 %)

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 : Drum and small package filling, Outdoor

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 activity : > 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 : 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
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

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

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	:	SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites
Environmental Release Categories	:	ERC2: Formulation of preparations
Process categories	:	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 : 49 kg
(kg/day):

Environment factors not influenced by risk management

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

Other given operational conditions affecting 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 : 0 %
Remarks : Formulation activity is assumed to be a predominantly enclosed process.

Technical conditions and measures / Organizational measures

Air : 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 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

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 10%.
Physical Form (at time of use) : liquid

Frequency and duration of use

Duration of the activity : 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.
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 10%.
Physical Form (at time of use) : liquid

Frequency and duration of use

Exposure duration (per sampling) : 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 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 activity : > 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 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 %)

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

Activity : Road tanker/rail car

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 activity : > 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 : 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 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 activity : > 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 %)

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 : Drum and small package filling, Outdoor

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 activity : > 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 : 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
ERC2	EUSES		Fresh water		0,024 µg/L	0,092
			Fresh water sediment		3,6 µg/kg wwt	0,092
			Sewage treatment plant		0,13 µg/L	0,0015

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

ARMEEN CD

Version 1

Revision Date 12.04.2019

Print Date 08.02.2021

DE / EN

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

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

Amount used

Maximum daily site tonnage (kg/day):	: 2 kg
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Environment factors not influenced by risk management

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

Other given operational conditions affecting environmental exposure

Number of emission days per year	: 300
Emission or Release Factor: Air	: 0 %
Emission or Release Factor: Water	: 0,02 %
Emission or Release Factor: Soil	: 0 %

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
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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 sediment		1,6 µg/kg wwt	0,042
			Sewage treatment plant		0,0051 µg/L	< 0,0001

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

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

1. Short title of Exposure Scenario: Industrial formulation

Main User Groups	:	SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites
Environmental Release Categories	:	ERC2: Formulation of preparations
Process categories	:	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 PROC15: Use as laboratory reagent 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 : 387 kg/day
(kg/day):

Environment factors not influenced by risk management

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

Other given operational conditions affecting environmental exposure

Number of emission days per year : 300
Emission or Release Factor: Air : 0 %
Emission or Release Factor: Water : 0,300 %
Emission or Release Factor: Soil : 0,00 %
Remarks : Formulation activity is assumed to be a predominantly enclosed process.

Technical conditions and measures / Organizational measures

Air : 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.

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

Activity : Formulation [mixing] of preparations and/or re-packaging, Reactors synthesis in batch process

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 activity : 8 h
Frequency of use : 150 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
Room size : 5600. m³

Exposure routes

Inhalation

Technical conditions and measures

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 %)

2.3 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 Mixture/Article : Covers percentage substance in the product up to 30%.
Physical Form (at time of use) : liquid

Frequency and duration of use

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Exposure duration (per sampling and analysis) : 15 min
Remarks : Inhalation
Duration of the activity : 75 min
Frequency of use : 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 activity : > 4 h
Frequency of use : 150 days/year

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor use
Outdoor / Indoor : Outdoor 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) 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 : 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 activity : > 4 h
Frequency of use : 150 days/year

Other operational conditions affecting 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 Mixture/Article : Covers percentage substance in the product up to 30%.

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Physical Form (at time of use) : liquid

Frequency and duration of use

Duration of the activity : 4 h

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor use

Technical conditions and measures

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

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.

2.7 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 percentage substance in the product up to 20%.

Mixture/Article

Physical Form (at time of use) : liquid

Frequency and duration of use

Duration of the activity : > 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 %)

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.

2.8 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 activity : > 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 : 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
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

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

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

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 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 20%. After dilution prior to use up to 0.2%.
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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 by 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	:	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.
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Conditions and measures related to municipal sewage treatment plant

Type of Sewage Treatment Plant	:	Sewage treatment plant
Percentage removed from waste water	:	99,8 %

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

Activity : Formulation of preparations

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 activity : < 15 min

Frequency of use : <= 240 days/year

Exposure duration : < 15 min

Human factors not influenced by risk management

Breathing volume : 10 m³/ 8h shift

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor use

Technical conditions and measures

Transfer via enclosed lines.

Local exhaust (Effectiveness (of a measure): 30 %)

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.

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

Activity : Spraying (automatic/robotic)

Product characteristics

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 activity : > 4 h

Frequency of use : <= 240 days/year

Exposure duration : > 4 h

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
 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

Workers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value	Level of Exposure	RCR
PROC8a	ECETOC TRA		Long term inhalation	0,346 mg/m ³	0,91
PROC7	ART		Long term inhalation	0,012 mg/m ³	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

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

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

Main User Groups	:	SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Environmental Release Categories	:	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 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%.
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Amount used

Amount used	:	20 ton(s)/year
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Other given operational conditions affecting 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.
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Conditions and measures related to municipal sewage treatment plant

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

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

Activity	:	Formulation of preparations
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Product characteristics

Concentration of the Substance in Mixture/Article : 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 activity : < 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

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) 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.

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

Activity : Manual

Product characteristics

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 activity : 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 horizontal or downward

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) 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 sediment		0,00145 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	0,000009
			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 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

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

PROC11: Non-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

For further information, please also consult our Internet site: Downstream Users
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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%.
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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

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.
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Conditions and measures related to municipal sewage treatment plant

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

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 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 activity : > 4 h
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

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.

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

Activity : Spraying (automatic/robotic)

Product characteristics

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 activity : 360 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 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 %)

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 : Formulation of preparations

Product characteristics

Concentration of the Substance in : Covers percentage substance in the product up to 2.5%

Mixture/Article

Physical Form (at time of use) : liquid

Frequency and duration of use

Duration of the activity : < 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 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): 90 %)

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

Activity : Spraying, Wiping

Product characteristics

Concentration of the Substance in : Covers percentage substance in the product up to 0.20%.

Mixture/Article

Frequency and duration of use

Duration of the activity : 360 min

Frequency of use : <= 240 days/year

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor use

Ventilation 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.

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
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

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

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

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

Main User Groups	: SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Environmental Release Categories	: 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%.
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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

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.
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Conditions and measures related to municipal sewage treatment plant

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

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

Activity : Formulation of preparations

Product characteristics

Concentration of the Substance in Mixture/Article : 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 activity : < 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 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): 90 %)

2.3 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 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 activity : > 4 h
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

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.

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

Activity : Spraying, Wiping, Manual

Product characteristics

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 activity : 360 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)
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 : Manual

Product characteristics

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 activity : 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

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	0,000009
			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

ARMEEN CD

Version 1

Revision Date 12.04.2019

Print Date 08.02.2021

DE / EN

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

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