

ANDEROL 2100 HTCL

Version 1.6

Revision Date 22.01.2018

Print Date 05.12.2018

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

1.1 Product identifier

Trade name : ANDEROL 2100 HTCL

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

Use of the Substance/Mixture : Lubricant, Raw material for industry

Recommended restrictions on use : Reserved for industrial and professional use.

1.3 Details of the supplier of the safety data sheet

Company: Manufacturer
Anderol Specialty Lubricants
Groot Egtenrayseweg 23
5928 PA Venlo
Netherlands

Telephone : +31-77 396 0340

Supplier
LANXESS Solutions UK Ltd.
Tenax Road, Trafford Park
Manchester
United Kingdom
M17 1WT

Customer Service: +44 161 875 3800
Prepared by Product Safety Department
(US) +1 866-430-2775

Further information for the safety data sheet :
msdsrequest@chemtura.com

1.4 Emergency telephone number

Emergency telephone number: +44 (0) 1235 239 670 (NCEC)

For additional emergency telephone numbers see section 16 of the Safety Data Sheet.

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SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Chronic aquatic toxicity, Category 3 H412: Harmful to aquatic life with long lasting effects.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard statements : H412 Harmful to aquatic life with long lasting effects.

Precautionary statements : **Prevention:**
P273 Avoid release to the environment.

Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

Additional Labelling:

EUH208 Contains: N-1-naphthylaniline. May produce an allergic reaction.

2.3 Other hazards

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

3.2 Mixtures

Hazardous components

Chemical name	CAS-No. EC-No. Registration number	Classification (REGULATION (EC) No 1272/2008)	Concentration (%)
O,O,O-triphenyl phosphorothioate	597-82-0 209-909-9 01-2119979545-21-xxxx	Aquatic Chronic4; H413	>= 1 - < 10
Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene	68411-46-1 270-128-1 01-2119491299-23-0002	Aquatic Chronic3; H412	>= 1 - < 10
N-1-naphthylaniline	90-30-2 201-983-0 01-2119488704-27-xxxx	Acute Tox.4; H302 Skin Sens.1; H317 STOT RE2; H373 Aquatic Acute1; H400 Aquatic Chronic1; H410	>= 0.25 - < 1
Amines, C11-14-branched	80939-62-4	Skin Irrit.2; H315	>= 0.1 - < 1

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alkyl, monohexyl and dihexyl phosphates	279-632-6 01-2119976322-36-xxxx	Eye Irrit.2; H319 Aquatic Chronic2; H411	
Distillates (petroleum), hydrotreated middle	64742-46-7 265-148-2	Asp. Tox.1; H304	>= 0.1 - < 1

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

- If inhaled : If inhaled
Move to fresh air.
If not breathing, give artificial respiration.
If breathing is difficult, give oxygen.
In case of bluish discoloration (lips, ear lobes, fingernails), give oxygen as quickly as possible.
If symptoms persist, call a physician.

- In case of skin contact : In case of skin contact
Wash off with soap and water.
Remove contaminated clothing and shoes.
Wash contaminated clothing before re-use.
Get medical attention if irritation develops and persists.

- In case of eye contact : In case of eye contact
Rinse thoroughly with plenty of water, also under the eyelids.
If eye irritation persists, consult a specialist.

- If swallowed : If swallowed, DO NOT induce vomiting.
Consult a physician if necessary.

4.2 Most important symptoms and effects, both acute and delayed

- Symptoms : No information available.

4.3 Indication of any immediate medical attention and special treatment needed

- Treatment : No information available.

SECTION 5: Firefighting measures

5.1 Extinguishing media

- Suitable extinguishing media : Carbon dioxide (CO₂)
Dry powder
Foam
Alcohol-resistant foam

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Water mist

Unsuitable extinguishing media : High volume water jet

5.2 Special hazards arising from the substance or mixture

Specific hazards during firefighting : Burning produces noxious and toxic fumes.

5.3 Advice for firefighters

Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.
Use personal protective equipment.

Further information : In the event of fire, cool tanks with water spray.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Use personal protective equipment.
Ensure adequate ventilation.
Forms slippery/greasy layers with water.

6.2 Environmental precautions

Environmental precautions : Should not be released into the environment.
Do not contaminate water.
Do not flush into surface water or sanitary sewer system.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13).

6.4 Reference to other sections

Refer to protective measures listed in sections 7 and 8.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling : Handle in accordance with good industrial hygiene and safety practice.
Keep container closed when not in use.
Do not use pressure to empty drums.
Ensure all equipment is electrically grounded before beginning transfer operations.

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Hygiene measures : Avoid contact with skin, eyes and clothing. Provide adequate ventilation. Do not breathe dust or spray mist.

7.2 Conditions for safe storage, including any incompatibilities

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

Other data : Stable under recommended storage conditions.

7.3 Specific end use(s)

Specific use(s) : Raw material for industry

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
Distillates (petroleum), hydrotreated middle	64742-46-7	GV (mist and particles)	1 mg/m ³	DK OEL

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

Component	End Use	Exposure routes	Potential health effects	Value:
Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene	Workers	Dermal	Long-term systemic effects	0.62 mg/kg
	Workers	Inhalation	Long-term systemic effects, Systemic effects	4.37 mg/m ³
	General exposures	Skin contact	Chronic effects, Systemic effects	0.31 mg/kg
	General exposures	Inhalation	Chronic effects, Systemic effects	1.09 mg/m ³
N-1-naphthylaniline	General exposures	Ingestion	Chronic effects, Systemic effects	0.31 mg/kg
	Workers	Dermal	Long-term systemic effects	0.12 mg/kg
	Workers	Inhalation	Long-term systemic effects	0.41 mg/m ³
	General exposures	Ingestion	Long-term systemic effects	0.06 mg/kg
	General exposures	Dermal	Long-term systemic effects	0.06 mg/kg
	General exposures	Inhalation	Long-term systemic effects	0.1 mg/m ³

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

Component	Environmental Compartment	Value
Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene	Fresh water	Value: 0.051 mg/l
	Marine water	Value: 0.0051 mg/l
	Fresh water sediment	Value: 9320 mg/kg
	Marine sediment	Value: 932 mg/kg
	Soil	Value: 1860 mg/kg
	STP	Value: 1 mg/l
N-1-naphthylaniline	Fresh water	Value: 0.0002 mg/l
	Marine water	Value: 0.00002 mg/l
	Fresh water sediment	Value: 0.0344 mg/kg
	Marine sediment	Value: 0.00344 mg/kg
	Soil	Value: 0.0068 mg/kg
	STP	Value: 100 mg/l

8.2 Exposure controls

Personal protective equipment

- Eye protection : Safety glasses with side-shields
Tightly fitting safety goggles
- Hand protection : Neoprene gloves
- Skin and body protection : Impervious clothing
- Respiratory protection : Breathing apparatus needed only when aerosol or mist is formed.
In the case of vapour formation use a respirator with an approved filter.

Environmental exposure controls

- General advice : Should not be released into the environment., Do not contaminate water., Do not flush into surface water or sanitary sewer system.

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SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	: liquid
Colour	: clear, yellow
Odour	: characteristic
Odour Threshold	: No data available
pH	: Not applicable
Melting point/range	: No data available
Boiling point/boiling range	: No data available
Flash point	: 262 °C
Evaporation rate	: No data available
Flammability (solid, gas)	: No data available
Upper explosion limit	: No data available
Lower explosion limit	: No data available
Vapour pressure	: No data available
Relative density	: No data available
Density	: 0.915 g/cm ³ (15 °C)
Solubility(ies)	
Water solubility	: slightly soluble
Solubility in other solvents	: No data available
Partition coefficient: n-octanol/water	: No data available
Auto-ignition temperature	: No data available
Viscosity	
Viscosity, dynamic	: 12.0 - 100.0 mPa.s (40 - 100 °C) Method: ASTM D 445

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Viscosity, kinematic : 94.9 mm²/s (40 °C)

9.2 Other information

Oxidizing potential : No information available.

SECTION 10: Stability and reactivity

10.1 Reactivity

No dangerous reaction known under conditions of normal use.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

Hazardous reactions : Hazardous polymerisation does not occur.

10.4 Conditions to avoid

Conditions to avoid : Heat

10.5 Incompatible materials

Materials to avoid : Strong acids and strong bases

10.6 Hazardous decomposition products

Hazardous decomposition products : Carbon oxides

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Components:

Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene:

Acute oral toxicity : LD50 (Rat): > 2,000 mg/kg
Method: OECD Test Guideline 401

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg

N-1-naphthylaniline:

Acute oral toxicity : LD50 (Rat): 1,625 mg/kg

Acute dermal toxicity : LD50 Dermal (Rabbit): > 5,000 mg/kg

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Skin corrosion/irritation

Components:

Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene:

Species: Rabbit

Method: OECD Test Guideline 404

Result: No skin irritation

N-1-naphthylaniline:

Species: Rabbit

Method: Draize Test

Result: No skin irritation

Serious eye damage/eye irritation

Components:

Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene:

Species: Rabbit

Method: OECD Test Guideline 405

Result: No eye irritation

N-1-naphthylaniline:

Species: Rabbit

Method: OECD Test Guideline 405

Result: No eye irritation

Respiratory or skin sensitisation

Components:

Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene:

Species: Guinea pig

Assessment: Did not cause sensitisation on laboratory animals.

Method: OECD Test Guideline 406

N-1-naphthylaniline:

Test Type: Maximisation Test

Species: Guinea pig

Assessment: May cause sensitisation by skin contact.

Result: May cause sensitisation by skin contact.

Test Type: Patch Test

Species: Human

Assessment: May cause sensitisation by skin contact.

Result: May cause sensitisation by skin contact.

Germ cell mutagenicity

Components:

Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene:

Germ cell mutagenicity

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Assessment : Not mutagenic in Ames Test

N-1-naphthylaniline:

Genotoxicity in vitro : Test Type: Ames test
Metabolic activation: with and without metabolic activation
Result: negative

: Test Type: Chinese Hamster Ovary (CHO)
Metabolic activation: with and without metabolic activation
Result: negative

Genotoxicity in vivo : Test Type: in vivo assay
Test species: Mouse (male)
Result: negative

Germ cell mutagenicity Assessment : Animal testing did not show any mutagenic effects., Tests on bacterial or mammalian cell cultures did not show mutagenic effects.

Carcinogenicity

Components:

N-1-naphthylaniline:

Carcinogenicity Assessment : Animal testing did not show any carcinogenic effects.

Reproductive toxicity

STOT - single exposure

STOT - repeated exposure

Components:

O,O,O-triphenyl phosphorothioate:

Exposure routes: Oral
Target Organs: Endocrine system
Assessment: May cause damage to organs through prolonged or repeated exposure.

N-1-naphthylaniline:

Exposure routes: Oral
Target Organs: Liver, Kidney
Assessment: May cause damage to organs through prolonged or repeated exposure.

Aspiration toxicity

Product:

No aspiration toxicity classification

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Further information

Product:

Remarks: There is no data available for this product.

SECTION 12: Ecological information

12.1 Toxicity

Product:

Further information

The following percentage of the mixture consists of ingredient(s) with unknown hazards to the aquatic environment: 95.464 %

Components:

Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene:

- Toxicity to fish : LC50 (Danio rerio (zebra fish)): > 71 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 51 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202
- Toxicity to algae : EbC50 (Desmodesmus subspicatus (green algae)): > 100 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

N-1-naphthylaniline:

- Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 0.44 mg/l
Exposure time: 96 h
Test Type: semi-static test
Analytical monitoring: yes
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 0.68 mg/l
Exposure time: 48 h
Test Type: semi-static test
Analytical monitoring: yes
- Toxicity to bacteria : EC50 (Protozoa): 2 mg/l
Exposure time: 48 h
- EC50 (Bacteria): > 10,000 mg/l
Exposure time: 3 h
- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 0.02 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)
Analytical monitoring: yes

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12.2 Persistence and degradability

Components:

Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene:

Biodegradability : Result: According to the results of tests of biodegradability this product is not readily biodegradable.
Method: CO2 Evolution Test

N-1-naphthylaniline:

Biodegradability : Test Type: aerobic
Inoculum: activated sludge
Concentration: 100 mg/l
Result: According to the results of tests of biodegradability this product is not readily biodegradable.
Biodegradation: 0 %
Exposure time: 28 d
Method: OECD Test Guideline 301
GLP: yes

12.3 Bioaccumulative potential

Components:

Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene:

Partition coefficient: n-octanol/water : log Pow: > 7

N-1-naphthylaniline:

Bioaccumulation : Species: Cyprinus carpio (Carp)
Exposure time: 56 d
Temperature: 25 °C
Concentration: 0.1 mg/l
Bioconcentration factor (BCF): 427 - 2,730

Partition coefficient: n-octanol/water : log Pow: 4.28

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

Product:

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.

12.6 Other adverse effects

Product:

Additional ecological : Remarks: There is no data available for this product.

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information

Remarks: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Harmful to aquatic life with long lasting effects.

Components:

Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene:

Additional ecological information : Remarks: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Do not allow material to contaminate ground water system.
Do not flush into surface water or sanitary sewer system.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product : Dispose of in accordance with the European Directives on waste and hazardous waste.
Dispose of wastes in an approved waste disposal facility.

Contaminated packaging : Do not burn, or use a cutting torch on, the empty drum.

SECTION 14: Transport information

14.1 UN number

Not regulated as a dangerous good

14.2 UN proper shipping name

Not regulated as a dangerous good

14.3 Transport hazard class(es)

Not regulated as a dangerous good

14.4 Packing group

Not regulated as a dangerous good

14.5 Environmental hazards

Not regulated as a dangerous good

14.6 Special precautions for user

Remarks : Not classified as dangerous in the meaning of transport regulations.

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

Not applicable for product as supplied.

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SECTION 15: Regulatory information

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

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59).

This product does not contain substances of very high concern (Regulation (EC) No 1907/2006 (REACH), Article 57).

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer

Not applicable

Regulation (EC) No 850/2004 on persistent organic pollutants

Not applicable

Major Accident Hazard Legislation

Seveso Directive

Directive 96/82/EC does not apply

Please note that Section 3 of this document lists only the hazardous components required by the specific country or region hazard communication regulations. The chemical identifiers listed in Section 3 are used globally for hazard communication purposes and may not reflect those used for chemical inventory coverage in a particular country or region. The chemical inventory information given in Section 15 of this document applies to the product as a whole and should be used when evaluating inventory compliance.

The components of this product are reported in the following inventories:

DSL	: This product contains the following components listed on the Canadian NDSL. All other components are on the Canadian DSL.
AICS	: Not in compliance with the inventory
NZIoC	: Not in compliance with the inventory
ENCS	: On the inventory, or in compliance with the inventory
KECI	: On the inventory, or in compliance with the inventory
PICCS	: Not in compliance with the inventory
IECSC	: On the inventory, or in compliance with the inventory
TCSI	: Not in compliance with the inventory
US.TSCA	: On TSCA Inventory

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15.2 Chemical safety assessment

For further information see eSDS.

SECTION 16: Other information

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

H412 Harmful to aquatic life with long lasting effects.

Emergency Phone Number

<u>Europe:</u>	All European Countries	+44 (0) 1235 239 670 (NCEC)
<u>Asia Pacific:</u>	East / South East Asia – Regional Number	+65 3158 1074 (NCEC)
	Australia	+61 2 8014 4558
	New Zealand	+64 9929 1483 (NCEC)
	China	+86 512 8090 3042 (NCEC)
	Taiwan	+886 2 8793 3212 (NCEC)
	Japan	+81 3 4578 9341 (NCEC)
	Indonesia	007 803 011 0293 (NCEC)
	Malaysia	+60 3 6207 4347 (NCEC)
	Thailand	001 800 120 666 751 (NCEC)
	Korea	+65 3158 1285 (NCEC)
	Vietnam	+84 8 4458 2388 (NCEC)
	India	+65 3158 1198 (NCEC)
	Pakistan	+65 3158 1329 (NCEC)
	Philippines	+65 3158 1203 (NCEC)
	Sri Lanka	+65 3158 1195 (NCEC)
	Bangladesh	+65 3158 1200 (NCEC)
<u>Middle East / Africa:</u>		+44 (0) 1235 239 671 (NCEC)
<u>North America</u>	United States of America (USA)	(800) 424-9300 (CHEMTREC)
	Canada	(800) 424-9300 (CHEMTREC)
<u>Latin America</u>	Mexico	+52 555 004 8763 (NCEC)
	Brazil	+55 11 3197 5891 (NCEC)
	Chile	+56 2 2582 9336 (NCEC)
	All other countries	+44 (0) 1235 239 670 (NCEC)

Further information

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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.

Identified uses:

Use: ES1, Formulation of preparations, (N-1-naphthylaniline, CAS: 90-30-2)

SU 3 SU3 SU8 PC17 PC24 PC25 PROC1 PROC2 PROC3 PROC4 PROC5 PROC8a PROC8b
PROC9 PROC15 ERC2

Use: ES2, Use of lubricants and greases, vehicles and machinery, (N-1-naphthylaniline, CAS: 90-30-2)

SU 3 PC17 PC24 PROC1 PROC2 PROC8b PROC9 ERC4

Use: ES3, Use of lubricants and greases, work pieces or equipment, Treatment by dipping and pouring, Rolling, Brushing, Spraying, (N-1-naphthylaniline, CAS: 90-30-2)

SU 3 SU3 PC24 PROC1 PROC2 PROC8b PROC9 PROC10 PROC13 ERC4

Use: ES4, Use of lubricants and greases, Treatment by heating, glass, (N-1-naphthylaniline, CAS: 90-30-2)

SU 3 SU3 PC17 PC24 PROC1 PROC2 PROC8b PROC13 ERC4

Use: ES5, Metal working fluids, Handling and storage, (N-1-naphthylaniline, CAS: 90-30-2)

SU 3 SU3 PC25 PROC1 PROC2 PROC5 PROC8b ERC2

Use: ES6, Operation and lubrication of high energy open equipment, (N-1-naphthylaniline, CAS: 90-30-2)

SU 3 SU3 PC17 PC24 PROC1 PROC2 PROC8b PROC17 PROC18 ERC4

Use: ES7, Use of lubricants and greases, vehicles and machinery, (N-1-naphthylaniline, CAS: 90-30-2)

SU 22 SU22 PC17 PC24 PROC1 PROC2 PROC8a PROC8b PROC20 ERC9a ERC9b

Use: ES8, Use of lubricants and greases, work pieces or equipment, Treatment by dipping and pouring, Rolling, Brushing, Spraying, (N-1-naphthylaniline, CAS: 90-30-2)

SU 22 SU 22 PC24 PROC1 PROC2 PROC8a PROC10 PROC13 ERC8a ERC8d

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Use: ES9, Operation and lubrication of high energy open equipment, (N-1-naphthylaniline, CAS: 90-30-2)

SU 22 SU 22 PC17 PC24 PROC1 PROC2 PROC8a PROC17 PROC18 ERC8a

1. Short title of Exposure Scenario: ES1, Formulation of preparations, (N-1-naphthylaniline, CAS: 90-30-2)

- Main User Groups : **SU 3:** Industrial uses: Uses of substances as such or in preparations at industrial sites
- Sectors of end-use : **SU3:** Industrial Manufacturing (all)
SU8: Manufacture of bulk, large scale chemicals (including petroleum products)
- Chemical product category : **PC17:** Hydraulic fluids
PC24: Lubricants, greases, release products
PC25: Metal working fluids
- Process categories : **PROC1:** Use in closed process, no likelihood of exposure
PROC2: Use in closed, continuous process with occasional controlled exposure
PROC3: Use in closed batch process (synthesis or formulation)
PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises
PROC5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/ or significant contact)
PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities
PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities
PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
PROC15: Use as laboratory reagent

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Environmental Release Categories : **ERC2:** Formulation of preparations

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

Amount used

Daily amount per site : 233.33 - 1000 kg
Annual amount per site : 20000 - 70000 kg

Environment factors not influenced by risk management

Flow rate of receiving surface water : 18,000 m³/d
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 : 0.005 %
Emission or Release Factor: Water : 0.00001 %
Emission or Release Factor: Soil : 0 %

Technical conditions and measures / Organizational measures

Water : Product must not be released into water without pre-treatment.
Soil : Soil emission controls are not applicable as there is no direct release to soil.

Conditions and measures related to municipal sewage treatment plant

Type of Sewage Treatment Plant : Default industrial size
Flow rate of sewage treatment plant effluent : 2,000 m³/d

Conditions and measures related to external treatment of waste for disposal

Disposal methods : Can be incinerated, when in compliance with local regulations.

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

Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical Form (at time of use) : Liquid substance
Vapour pressure : < 10 hPa

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Frequency and duration of use

Exposure duration : < 480 min
Frequency of use : 5 days/week
Remarks : Covers daily exposures up to 8 hours (unless stated differently).

Human factors not influenced by risk management

Dermal exposure : 240 cm³

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor
Remarks : Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures

Handle substance within a closed system.

Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operatives are trained to minimise exposures., General standard operating procedures to control routine activities

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

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Effectiveness (of a measure): 95 %

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

Product characteristics

Concentration of the Substance in Mixture/Article : <=27%

Physical Form (at time of use) : Liquid substance
Vapour pressure : < 10 hPa

Frequency and duration of use

Exposure duration : < 480 min
Frequency of use : 5 days/week
Remarks : Covers daily exposures up to 8 hours (unless stated differently).

Human factors not influenced by risk management

Dermal exposure : Palms of both hands (480 cm²)

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor
Remarks : Assumes a good basic standard of occupational hygiene is implemented.

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Technical conditions and measures

Handle substance within a closed system., Use only in area provided with appropriate exhaust ventilation. (Effectiveness (of a measure): 90 %

Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operatives are trained to minimise exposures., General standard operating procedures to control routine activities

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

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Effectiveness (of a measure): 95 %

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

Product characteristics

Concentration of the Substance in Mixture/Article : <=27%

Physical Form (at time of use) : Liquid mixture

Frequency and duration of use

Exposure duration : > 240 min

Frequency of use : 5 days/week

Remarks : Covers daily exposures up to 8 hours (unless stated differently).

Human factors not influenced by risk management

Dermal exposure : 240 cm³

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor

Remarks : Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures

Provide extraction ventilation at points where emissions occur. (Effectiveness (of a measure): 90 %

Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operatives are trained to minimise exposures., General standard operating procedures to control routine activities

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

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Effectiveness (of a measure): 95 %

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

Product characteristics

Concentration of the Substance in Mixture/Article : <=27%

Physical Form (at time of use) : Liquid mixture
Vapour pressure : < 10 hPa

Frequency and duration of use

Exposure duration : < 240 min
Frequency of use : 5 days/week

Human factors not influenced by risk management

Dermal exposure : Palms of both hands (480 cm²)

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor
Remarks : Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures

Provide extraction ventilation at points where emissions occur. (Effectiveness (of a measure): 90 %)

Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operatives are trained to minimise exposures., General standard operating procedures to control routine activities

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

Wear chemically resistant gloves (tested to EN374) in combination with intensive management supervision controls. (Effectiveness (of a measure): 98 %)

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

Product characteristics

Concentration of the Substance in Mixture/Article : Limit the substance content in the product to 10 %.

Physical Form (at time of use) : Liquid mixture
Vapour pressure : < 10 hPa

Frequency and duration of use

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Exposure duration : < 240 min
Frequency of use : 5 days/week

Human factors not influenced by risk management

Dermal exposure : Palms of both hands (480 cm²)

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor
Remarks : Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures

Provide extraction ventilation at points where emissions occur. (Effectiveness (of a measure): 90 %)

Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operatives are trained to minimise exposures., General standard operating procedures to control routine activities

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

Wear chemically resistant gloves (tested to EN374) in combination with intensive management supervision controls. (Effectiveness (of a measure): 98 %)

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

Product characteristics

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

Physical Form (at time of use) : Solid, medium dustiness

Frequency and duration of use

Exposure duration : < 60 min
Frequency of use : 5 days/week

Human factors not influenced by risk management

Dermal exposure : 960 cm³

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor
Remarks : Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures

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Provide extraction ventilation at points where emissions occur. (Effectiveness (of a measure): 90 %

Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operatives are trained to minimise exposures., General standard operating procedures to control routine activities

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

Wear chemically resistant gloves (tested to EN374) in combination with intensive management supervision controls. (Effectiveness (of a measure): 98 %

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

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) : Solid, medium dustiness

Frequency and duration of use

Exposure duration : < 60 min
Frequency of use : 5 days/week

Human factors not influenced by risk management

Dermal exposure : 960 cm³

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor
Remarks : Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures

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

Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operatives are trained to minimise exposures., General standard operating procedures to control routine activities

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

Wear chemically resistant gloves (tested to EN374) in combination with intensive management supervision controls. (Effectiveness (of a measure): 98 %

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

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Product characteristics

Concentration of the Substance in Mixture/Article : <=27%

Physical Form (at time of use) : Liquid mixture

Frequency and duration of use

Exposure duration : < 240 min

Human factors not influenced by risk management

Dermal exposure : Palms of both hands (480 cm²)

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor

Remarks : Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures

Provide extraction ventilation at points where emissions occur. (Effectiveness (of a measure): 90 %

Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operatives are trained to minimise exposures., General standard operating procedures to control routine activities

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

Wear chemically resistant gloves (tested to EN374) in combination with intensive management supervision controls. (Effectiveness (of a measure): 98 %

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

Product characteristics

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

Physical Form (at time of use) : Solid, medium dustiness

Frequency and duration of use

Exposure duration : < 240 min

Human factors not influenced by risk management

Dermal exposure : 240 cm³

Other operational conditions affecting workers exposure

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Outdoor / Indoor : Indoor
Remarks : Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures

Provide extraction ventilation at points where emissions occur. (Effectiveness (of a measure): 90 %)

Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operatives are trained to minimise exposures., General standard operating procedures to control routine activities

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

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Effectiveness (of a measure): 95 %)

3. Exposure estimation and reference to its source

Environment

Contributing Scenario	Exposure Assessment Method	Specific conditions	Compartment	Value type	Level of Exposure	RCR
ERC2	EASY TRA v4.1		Fresh water	Predicted exposure concentration	< 1mg/l	< 1
ERC2	EASY TRA v4.1		Marine water	Predicted exposure concentration	< 1mg/l	< 1
ERC2	EASY TRA v4.1		Fresh water sediment	Predicted exposure concentration	< 1mg/kg-day	< 1
ERC2	EASY TRA v4.1		Marine sediment	Predicted exposure concentration	< 1mg/kg-day	< 1
ERC2	EASY TRA v4.1		Soil	Predicted exposure concentration	< 1mg/kg-day	< 1
ERC2	EASY TRA v4.1		STP	Predicted exposure concentration	< 1mg/l	< 1

Workers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value type	Level of Exposure	RCR
PROC1	EASY TRA v4.1	Inhalation exposure	Chronic inhalation systemic exposure	0.0244 mg/l	< 1
PROC1	RISKOFDERM	Dermal exposure	Chronic dermal	0.0286 mg/kg	< 1

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	v2.1		systemic exposure		
PROC2	EASY TRA v4.1	Inhalation exposure	Chronic inhalation systemic exposure	0.1224 mg/l	< 1
PROC2	RISKOFDERM v2.1	Dermal exposure	Chronic dermal systemic exposure	0.0114 mg/kg	< 1
PROC3	EASY TRA v4.1	Inhalation exposure	Chronic inhalation systemic exposure	0.2439 mg/l	< 1
PROC3	RISKOFDERM v2.1	Dermal exposure	Chronic dermal systemic exposure	0.0029 mg/kg	< 1
PROC4	EASY TRA v4.1	Inhalation exposure	Chronic inhalation systemic exposure	0.7317 mg/l	< 1
PROC4	RISKOFDERM v2.1	Inhalation exposure	Chronic dermal systemic exposure	0.0571 mg/kg	< 1
PROC5	EASY TRA v4.1	Inhalation exposure	Chronic inhalation systemic exposure	0.7317 mg/l	< 1
PROC5	RISKOFDERM v2.1	Inhalation exposure	Chronic dermal systemic exposure	0.0057 mg/kg	< 1
PROC8a	EASY TRA v4.1	Inhalation exposure	Chronic inhalation systemic exposure	0.7317 mg/l	< 1
PROC8a	RISKOFDERM v2.1	Dermal exposure	Chronic dermal systemic exposure	0.0114 mg/kg	< 1
PROC8b	EASY TRA v4.1	Inhalation exposure	Chronic inhalation systemic exposure	0.6098 mg/l	< 1
PROC8b	RISKOFDERM v2.1	Dermal exposure	Chronic dermal systemic exposure	0.0571 mg/kg	< 1
PROC9	RISKOFDERM v2.1	Dermal exposure	Chronic dermal systemic exposure	0.571 mg/kg	< 1
PROC9	EASY TRA v4.1	Inhalation exposure	Chronic inhalation systemic exposure	0.1220 mg/l	< 1
PROC15	RISKOFDERM v2.1	Dermal exposure	Chronic dermal systemic exposure	0.0029 mg/kg	< 1
PROC15	EASY TRA v4.1	Inhalation exposure	Chronic inhalation systemic exposure	0.1220 mg/l	< 1

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

Where other RMM/OC are adopted, then users should ensure that risks are managed to at least equivalent levels.

Estimated workplace exposures are not expected to exceed DNELs when the identified risk management measures are adopted.

1. Short title of Exposure Scenario: ES2, Use of lubricants and greases, vehicles and machinery, (N-1-naphthylaniline, CAS: 90-30-2)

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- Main User Groups : **SU 3:** Industrial uses: Uses of substances as such or in preparations at industrial sites
- Chemical product category : **PC17:** Hydraulic fluids
PC24: Lubricants, greases, release products
- Process categories : **PROC1:** Use in closed process, no likelihood of exposure
PROC2: Use in closed, continuous process with occasional controlled exposure
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)
- Environmental Release Categories : **ERC4:** Industrial use of processing aids in processes and products, not becoming part of articles

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

Amount used

- Daily amount per site : 100 kg
Annual amount per site : 30000 kg

Environment factors not influenced by risk management

- Flow rate of receiving surface water : 18,000 m³/d
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 : 0.005 %
Emission or Release Factor: Water : 0.000001 %
Emission or Release Factor: Soil : 0 %

Technical conditions and measures / Organizational measures

- Water : Product must not be released into water without pre-treatment.
Soil : Soil emission controls are not applicable as there is no direct release to soil.

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Conditions and measures related to municipal sewage treatment plant

Type of Sewage Treatment Plant : Default industrial size
Flow rate of sewage treatment : 2,000 m³/d
plant effluent

Conditions and measures related to external treatment of waste for disposal

Disposal methods : Can be incinerated, when in compliance with local regulations.

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

Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 5%.

Physical Form (at time of use) : Liquid mixture

Frequency and duration of use

Exposure duration : > 240 min
Remarks : Covers daily exposures up to 8 hours (unless stated differently).

Human factors not influenced by risk management

Dermal exposure : 240 cm³

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor
Remarks : Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures

Ensure adequate ventilation, especially in confined areas.

Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operatives are trained to minimise exposures., General standard operating procedures to control routine activities

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

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Effectiveness (of a measure): 95 %

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

Product characteristics

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Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 5%.

Physical Form (at time of use) : Liquid mixture

Frequency and duration of use

Exposure duration : > 240 min
Remarks : Covers daily exposures up to 8 hours (unless stated differently).

Human factors not influenced by risk management

Dermal exposure : Palms of both hands (480 cm²)

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor
Remarks : Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures

Ensure adequate ventilation, especially in confined areas.

Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operatives are trained to minimise exposures., General standard operating procedures to control routine activities

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

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Effectiveness (of a measure): 95 %

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

Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 5%.

Physical Form (at time of use) : Liquid mixture

Frequency and duration of use

Exposure duration : < 240 min

Human factors not influenced by risk management

Dermal exposure : 960 cm³

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor
Remarks : Assumes a good basic standard of occupational hygiene is

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implemented.

Technical conditions and measures

Ensure adequate ventilation, especially in confined areas.

Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operatives are trained to minimise exposures., General standard operating procedures to control routine activities

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

Wear chemically resistant gloves (tested to EN374) in combination with intensive management supervision controls. (Effectiveness (of a measure): 98 %

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

Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 5%.

Physical Form (at time of use) : Liquid mixture

Frequency and duration of use

Exposure duration : > 240 min

Remarks : Covers daily exposures up to 8 hours (unless stated differently).

Human factors not influenced by risk management

Dermal exposure : Palms of both hands (480 cm²)

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor

Remarks : Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures

Ensure adequate ventilation, especially in confined areas.

Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operatives are trained to minimise exposures., General standard operating procedures to control routine activities

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

Wear chemically resistant gloves (tested to EN374) in combination with intensive management supervision controls. (Effectiveness (of a measure): 98 %

3. Exposure estimation and reference to its source

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Environment

Contributing Scenario	Exposure Assessment Method	Specific conditions	Compartment	Value type	Level of Exposure	RCR
ERC4	EASY TRA v4.1		Fresh water	Predicted exposure concentration	< 1mg/l	< 1
ERC4	EASY TRA v4.1		Marine water	Predicted exposure concentration	< 1mg/l	< 1
ERC4	EASY TRA v4.1		Fresh water sediment	Predicted exposure concentration	< 1mg/kg-day	< 1
ERC4	EASY TRA v4.1		Marine sediment	Predicted exposure concentration	< 1mg/kg-day	< 1
ERC4	EASY TRA v4.1		Soil	Predicted exposure concentration	< 1mg/kg-day	< 1
ERC4	EASY TRA v4.1		STP	Predicted exposure concentration	< 1mg/l	< 1

Workers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value type	Level of Exposure	RCR
PROC1	EASY TRA v4.1	Inhalation exposure	Chronic inhalation systemic exposure	0.090 mg/l	< 1
PROC1	EASY TRA v4.1	Dermal exposure	Chronic dermal systemic exposure	0.003 mg/kg	< 1
PROC2	EASY TRA v4.1	Inhalation exposure	Chronic inhalation systemic exposure	0.090 mg/l	< 1
PROC2	EASY TRA v4.1	Dermal exposure	Chronic dermal systemic exposure	0.001 mg/kg	< 1
PROC8b	EASY TRA v4.1	Inhalation exposure	Chronic inhalation systemic exposure	0.027 mg/l	< 1
PROC8b	EASY TRA v4.1	Dermal exposure	Chronic dermal systemic exposure	0.007 mg/kg	< 1
PROC9	EASY TRA v4.1	Inhalation exposure	Chronic inhalation systemic exposure	0.090 mg/l	< 1
PROC9	EASY TRA v4.1	Dermal exposure	Chronic dermal systemic exposure	0.007 mg/kg	< 1

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

Where other RMM/OC are adopted, then users should ensure that risks are managed to at least equivalent levels.

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Estimated workplace exposures are not expected to exceed DNELs when the identified risk management measures are adopted.

1. Short title of Exposure Scenario: ES3, Use of lubricants and greases, work pieces or equipment, Treatment by dipping and pouring, Rolling, Brushing, Spraying, (N-1-naphthylaniline, CAS: 90-30-2)

- Main User Groups : **SU 3:** Industrial uses: Uses of substances as such or in preparations at industrial sites
- Sectors of end-use : **SU3:** Industrial Manufacturing (all)
- Chemical product category : **PC24:** Lubricants, greases, release products
- Process categories : **PROC1:** Use in closed process, no likelihood of exposure
PROC2: Use in closed, continuous process with occasional controlled exposure
PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities
PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
PROC10: Roller application or brushing
PROC13: Treatment of articles by dipping and pouring
- Environmental Release Categories : **ERC4:** Industrial use of processing aids in processes and products, not becoming part of articles

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

Amount used

- Daily amount per site : 100 kg
Annual amount per site : 30000 kg

Environment factors not influenced by risk management

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Flow rate of receiving surface water : 18,000 m³/d
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 : 0.005 %
Emission or Release Factor: Water : 0.000001 %
Emission or Release Factor: Soil : 0 %

Technical conditions and measures / Organizational measures

Water : Product must not be released into water without pre-treatment.
Soil : Soil emission controls are not applicable as there is no direct release to soil.

Conditions and measures related to municipal sewage treatment plant

Type of Sewage Treatment Plant : Default industrial size
Flow rate of sewage treatment plant effluent : 2,000 m³/d

Conditions and measures related to external treatment of waste for disposal

Disposal methods : Can be incinerated, when in compliance with local regulations.

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

Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 5%.
Physical Form (at time of use) : Liquid mixture
Vapour pressure : > 10 hPa

Frequency and duration of use

Exposure duration : > 240 min
Remarks : Covers daily exposures up to 8 hours (unless stated differently).

Human factors not influenced by risk management

Dermal exposure : 240 cm³

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor
Remarks : Assumes a good basic standard of occupational hygiene is implemented.

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Technical conditions and measures

Ensure adequate ventilation, especially in confined areas.

Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operatives are trained to minimise exposures., General standard operating procedures to control routine activities

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

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Effectiveness (of a measure): 95 %

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

Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 5%.

Physical Form (at time of use) : Liquid mixture

Frequency and duration of use

Exposure duration : > 240 min
Remarks : Covers daily exposures up to 8 hours (unless stated differently).

Human factors not influenced by risk management

Dermal exposure : Palms of both hands (480 cm²)

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor
Remarks : Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures

Ensure adequate ventilation, especially in confined areas.

Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operatives are trained to minimise exposures., General standard operating procedures to control routine activities

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

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Effectiveness (of a measure): 95 %

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

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Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 5%.

Physical Form (at time of use) : Liquid mixture

Frequency and duration of use

Exposure duration : < 240 min

Human factors not influenced by risk management

Dermal exposure : 960 cm³

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor

Remarks : Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures

Ensure adequate ventilation, especially in confined areas.

Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operatives are trained to minimise exposures., General standard operating procedures to control routine activities

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

Wear chemically resistant gloves (tested to EN374) in combination with intensive management supervision controls. (Effectiveness (of a measure): 98 %

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

Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 5%.

Physical Form (at time of use) : Liquid mixture

Frequency and duration of use

Exposure duration : < 60 min

Human factors not influenced by risk management

Dermal exposure : Palms of both hands (480 cm²)

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor

Remarks : Assumes a good basic standard of occupational hygiene is implemented.

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Technical conditions and measures

Ensure adequate ventilation, especially in confined areas.

Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operatives are trained to minimise exposures., General standard operating procedures to control routine activities

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

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Effectiveness (of a measure): 95 %

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

Product characteristics

Concentration of the Substance in Mixture/Article : Covers percentage substance in the product up to 1 %.

Physical Form (at time of use) : Liquid mixture
Vapour pressure : > 10 hPa

Frequency and duration of use

Exposure duration : > 240 min
Remarks : Covers daily exposures up to 8 hours (unless stated differently).

Human factors not influenced by risk management

Dermal exposure : 960 cm³

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor
Remarks : Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures

Provide extraction ventilation at points where emissions occur. (Effectiveness (of a measure): 90 %

Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operatives are trained to minimise exposures., General standard operating procedures to control routine activities

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

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Effectiveness (of a measure): 95 %

2.7 Contributing scenario controlling worker exposure for: PROC13: Treatment of articles by dipping and pouring

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Product characteristics

- Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 5%.
- Physical Form (at time of use) : Liquid mixture
- Vapour pressure : > 10 hPa

Frequency and duration of use

- Exposure duration : > 240 min
- Remarks : Covers daily exposures up to 8 hours (unless stated differently).

Human factors not influenced by risk management

- Dermal exposure : Palms of both hands (480 cm²)

Other operational conditions affecting workers exposure

- Outdoor / Indoor : Indoor
- Remarks : Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures

Provide extraction ventilation at points where emissions occur.

Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operatives are trained to minimise exposures., General standard operating procedures to control routine activities

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

Wear chemically resistant gloves (tested to EN374) in combination with intensive management supervision controls. (Effectiveness (of a measure): 98 %

3. Exposure estimation and reference to its source

Environment

Contributing Scenario	Exposure Assessment Method	Specific conditions	Compartment	Value type	Level of Exposure	RCR
ERC4	EASY TRA v4.1		Fresh water	Predicted exposure concentration	< 1mg/l	< 1
ERC4	EASY TRA v4.1		Marine water	Predicted exposure concentration	< 1mg/l	< 1
ERC4	EASY TRA v4.1		Fresh water sediment	Predicted exposure concentration	< 1mg/kg-day	< 1
ERC4	EASY TRA		Marine sedi-	Predicted	< 1mg/kg-day	< 1

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	v4.1		ment	exposure concentration		
ERC4	EASY TRA v4.1		Soil	Predicted exposure concentration	< 1mg/kg-day	< 1
ERC4	EASY TRA v4.1		STP	Predicted exposure concentration	< 1mg/l	< 1

Workers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value type	Level of Exposure	RCR
PROC1	EASY TRA v4.1	Inhalation exposure	Chronic inhalation systemic exposure	0.2197 mg/l	< 1
PROC1	EASY TRA v4.1	Dermal exposure	Chronic dermal systemic exposure	0.0029 mg/kg	< 1
PROC2	EASY TRA v4.1	Inhalation exposure	Chronic inhalation systemic exposure	0.2197 mg/l	< 1
PROC2	EASY TRA v4.1	Dermal exposure	Chronic dermal systemic exposure	0.0114 mg/kg	< 1
PROC8b	EASY TRA v4.1	Inhalation exposure	Chronic inhalation systemic exposure	0.0659 mg/l	< 1
PROC8b	EASY TRA v4.1	Dermal exposure	Chronic dermal systemic exposure	0.0571 mg/kg	< 1
PROC9	EASY TRA v4.1	Inhalation exposure	Chronic inhalation systemic exposure	0.2197 mg/l	< 1
PROC9	EASY TRA v4.1	Dermal exposure	Chronic dermal systemic exposure	0.0571 mg/kg	< 1
PROC10	EASY TRA v4.1	Inhalation exposure	Chronic inhalation systemic exposure	0.0439 mg/l	< 1
PROC10	EASY TRA v4.1	Dermal exposure	Chronic dermal systemic exposure	0.0229 mg/kg	< 1
PROC13	EASY TRA v4.1	Inhalation exposure	Chronic inhalation systemic exposure	0.1318 mg/l	< 1
PROC13	EASY TRA v4.1	Dermal exposure	Chronic dermal systemic exposure	0.0343 mg/kg	< 1

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

Where other RMM/OC are adopted, then users should ensure that risks are managed to at least equivalent levels.

Estimated workplace exposures are not expected to exceed DNELs when the identified risk management measures are adopted.

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1. Short title of Exposure Scenario: ES4, Use of lubricants and greases, Treatment by heating, glass, (N-1-naphthylaniline, CAS: 90-30-2)

Main User Groups	: SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites
Sectors of end-use	: SU3: Industrial Manufacturing (all)
Chemical product category	: PC17: Hydraulic fluids PC24: Lubricants, greases, release products
Process categories	: PROC1: Use in closed process, no likelihood of exposure PROC2: Use in closed, continuous process with occasional controlled exposure PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities PROC13: Treatment of articles by dipping and pouring
Environmental Release Categories	: ERC4: Industrial use of processing aids in processes and products, not becoming part of articles

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

Amount used

Daily amount per site	: 20 kg
Annual amount per site	: 6000 kg

Environment factors not influenced by risk management

Flow rate of receiving surface water	: 18,000 m ³ /d
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	: 0.005 %
Emission or Release Factor: Water	: 0.000001 %
Emission or Release Factor: Soil	: 0 %

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Technical conditions and measures / Organizational measures

- Water : Product must not be released into water without pre-treatment.
- Soil : Soil emission controls are not applicable as there is no direct release to soil.

Conditions and measures related to municipal sewage treatment plant

- Type of Sewage Treatment Plant : Default industrial size
- Flow rate of sewage treatment plant effluent : 2,000 m³/d

Conditions and measures related to external treatment of waste for disposal

- Disposal methods : Can be incinerated, when in compliance with local regulations.

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

Product characteristics

- Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 5%.
- Physical Form (at time of use) : Liquid mixture
- Vapour pressure : > 10 hPa

Frequency and duration of use

- Exposure duration : > 240 min
- Remarks : Covers daily exposures up to 8 hours (unless stated differently).

Human factors not influenced by risk management

- Dermal exposure : 240 cm³

Other operational conditions affecting workers exposure

- Outdoor / Indoor : Indoor
- Remarks : Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures

Handle substance within a closed system.

Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operatives are trained to minimise exposures., General standard operating procedures to control routine activities

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

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Effectiveness (of a measure): 95 %

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

Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 5%.

Physical Form (at time of use) : Liquid mixture

Frequency and duration of use

Exposure duration : > 240 min

Remarks : Covers daily exposures up to 8 hours (unless stated differently).

Human factors not influenced by risk management

Dermal exposure : Palms of both hands (480 cm²)

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor

Remarks : Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures

Ensure adequate ventilation, especially in confined areas.

Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operatives are trained to minimise exposures., General standard operating procedures to control routine activities

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

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Effectiveness (of a measure): 95 %

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

Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 5%.

Physical Form (at time of use) : Liquid mixture

Frequency and duration of use

Exposure duration : < 240 min

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Human factors not influenced by risk management

Dermal exposure : 960 cm³

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor
Remarks : Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures

Ensure adequate ventilation, especially in confined areas.

Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operatives are trained to minimise exposures., General standard operating procedures to control routine activities

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

Wear a respirator conforming to EN140 with Type A/P2 filter or better. (Effectiveness (of a measure): 98 %
Wear chemically resistant gloves (tested to EN374) in combination with intensive management supervision controls. (Effectiveness (of a measure): 98 %

2.5 Contributing scenario controlling worker exposure for: PROC13: Treatment of articles by dipping and pouring

Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 5%.

Physical Form (at time of use) : Liquid mixture
Vapour pressure : > 10 hPa

Frequency and duration of use

Exposure duration : > 240 min
Remarks : Covers daily exposures up to 8 hours (unless stated differently).

Human factors not influenced by risk management

Dermal exposure : Palms of both hands (480 cm²)

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor
Remarks : Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures

Provide extraction ventilation at points where emissions occur. (Effectiveness (of a measure): 90 %

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Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operatives are trained to minimise exposures., General standard operating procedures to control routine activities

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

Wear a respirator conforming to EN140 with Type A/P2 filter or better. (Effectiveness (of a measure): 98 %

Wear chemically resistant gloves (tested to EN374) in combination with intensive management supervision controls. (Effectiveness (of a measure): 98 %

3. Exposure estimation and reference to its source

Environment

Contributing Scenario	Exposure Assessment Method	Specific conditions	Compartment	Value type	Level of Exposure	RCR
ERC4	EASY TRA v4.1		Fresh water	Predicted exposure concentration	< 1mg/l	< 1
ERC4	EASY TRA v4.1		Marine water	Predicted exposure concentration	< 1mg/l	< 1
ERC4	EASY TRA v4.1		Fresh water sediment	Predicted exposure concentration	< 1mg/kg-day	< 1
ERC4	EASY TRA v4.1		Marine sediment	Predicted exposure concentration	< 1mg/kg-day	< 1
ERC4	EASY TRA v4.1		Soil	Predicted exposure concentration	< 1mg/kg-day	< 1
ERC4	EASY TRA v4.1		STP	Predicted exposure concentration	< 1mg/l	< 1

Workers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value type	Level of Exposure	RCR
PROC1	EASY TRA v4.1	Inhalation exposure	Chronic inhalation systemic exposure	0.2197 mg/l	< 1
PROC1	EASY TRA v4.1	Dermal exposure	Chronic dermal systemic exposure	0.0029 mg/kg	< 1
PROC2	EASY TRA v4.1	Inhalation exposure	Chronic inhalation systemic exposure	0.2197 mg/l	< 1
PROC2	EASY TRA v4.1	Dermal exposure	Chronic dermal systemic exposure	0.0114 mg/kg	< 1
PROC8b	EASY TRA v4.1	Inhalation exposure	Chronic inhalation systemic exposure	0.0659 mg/l	< 1

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PROC8b	EASY TRA v4.1	Dermal exposure	Chronic dermal systemic exposure	0.0571 mg/kg	< 1
PROC13	EASY TRA v4.1	Inhalation exposure	Chronic inhalation systemic exposure	0.1318 mg/l	< 1
PROC13	EASY TRA v4.1	Dermal exposure	Chronic dermal systemic exposure	0.0343 mg/kg	< 1

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

Where other RMM/OC are adopted, then users should ensure that risks are managed to at least equivalent levels.

Estimated workplace exposures are not expected to exceed DNELs when the identified risk management measures are adopted.

1. Short title of Exposure Scenario: ES5, Metal working fluids, Handling and storage, (N-1-naphthylaniline, CAS: 90-30-2)

- Main User Groups : **SU 3:** Industrial uses: Uses of substances as such or in preparations at industrial sites
- Sectors of end-use : **SU3:** Industrial Manufacturing (all)
- Chemical product category : **PC25:** Metal working fluids
- Process categories : **PROC1:** Use in closed process, no likelihood of exposure
PROC2: Use in closed, continuous process with occasional controlled exposure
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
- Environmental Release Categories : **ERC2:** Formulation of preparations

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

Amount used

Daily amount per site : 250 kg
Annual amount per site : 5000 kg

Environment factors not influenced by risk management

Flow rate of receiving surface water : 18,000 m³/d
Dilution Factor (River) : 10
Dilution Factor (Coastal Areas) : 100

Other given operational conditions affecting environmental exposure

Number of emission days per year : 20
Emission or Release Factor: Air : 0.005 %
Emission or Release Factor: Water : 0.00001 %
Emission or Release Factor: Soil : 0 %

Technical conditions and measures / Organizational measures

Water : Product must not be released into water without pre-treatment.
Soil : Soil emission controls are not applicable as there is no direct release to soil.

Conditions and measures related to municipal sewage treatment plant

Type of Sewage Treatment Plant : Default industrial size
Flow rate of sewage treatment plant effluent : 2,000 m³/d

Conditions and measures related to external treatment of waste for disposal

Disposal methods : Can be incinerated, when in compliance with local regulations.

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

Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 5%.
Physical Form (at time of use) : Liquid mixture
Vapour pressure : > 10 hPa

Frequency and duration of use

Exposure duration : > 240 min
Remarks : Covers daily exposures up to 8 hours (unless stated differ-

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Human factors not influenced by risk management

Dermal exposure : 240 cm³

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor
Remarks : Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures

Ensure adequate ventilation, especially in confined areas.

Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operatives are trained to minimise exposures., General standard operating procedures to control routine activities

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

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Effectiveness (of a measure): 95 %

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

Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 5%.

Physical Form (at time of use) : Liquid mixture
Vapour pressure : > 10 hPa

Frequency and duration of use

Exposure duration : > 240 min
Remarks : Covers daily exposures up to 8 hours (unless stated differently).

Human factors not influenced by risk management

Dermal exposure : Palms of both hands (480 cm²)

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor
Remarks : Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures

Ensure adequate ventilation, especially in confined areas.

Organisational measures to prevent /limit releases, dispersion and exposure

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Ensure operatives are trained to minimise exposures., General standard operating procedures to control routine activities

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

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Effectiveness (of a measure): 95 %

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)

Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 5%.

Physical Form (at time of use) : Liquid mixture
Vapour pressure : > 10 hPa

Frequency and duration of use

Exposure duration : < 60 min

Human factors not influenced by risk management

Dermal exposure : Palms of both hands (480 cm²)

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor
Remarks : Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures

Ensure adequate ventilation, especially in confined areas.

Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operatives are trained to minimise exposures., General standard operating procedures to control routine activities

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

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Effectiveness (of a measure): 95 %

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

Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 5%.

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Physical Form (at time of use) : Liquid mixture

Vapour pressure : > 10 hPa

Frequency and duration of use

Exposure duration : < 60 min

Human factors not influenced by risk management

Dermal exposure : 960 cm³

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor

Remarks : Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures

Ensure adequate ventilation, especially in confined areas.

Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operatives are trained to minimise exposures., General standard operating procedures to control routine activities

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

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Effectiveness (of a measure): 95 %

3. Exposure estimation and reference to its source

Environment

Contributing Scenario	Exposure Assessment Method	Specific conditions	Compartment	Value type	Level of Exposure	RCR
ERC2	EASY TRA v4.1		Fresh water	Predicted exposure concentration	< 1mg/l	< 1
ERC2	EASY TRA v4.1		Marine water	Predicted exposure concentration	< 1mg/l	< 1
ERC2	EASY TRA v4.1		Fresh water sediment	Predicted exposure concentration	< 1mg/kg-day	< 1
ERC2	EASY TRA v4.1		Marine sediment	Predicted exposure concentration	< 1mg/kg-day	< 1
ERC2	EASY TRA v4.1		Soil	Predicted exposure concentration	< 1mg/kg-day	< 1
ERC2	EASY TRA v4.1		STP	Predicted exposure	< 1mg/l	< 1

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				concentration		
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Workers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value type	Level of Exposure	RCR
PROC1	EASY TRA v4.1	Inhalation exposure	Chronic inhalation systemic exposure	0.090 mg/l	< 1
PROC1	EASY TRA v4.1	Dermal exposure	Chronic dermal systemic exposure	0.003 mg/kg	< 1
PROC2	EASY TRA v4.1	Inhalation exposure	Chronic inhalation systemic exposure	0.090 mg/l	< 1
PROC2	EASY TRA v4.1	Dermal exposure	Chronic dermal systemic exposure	0.001 mg/kg	< 1
PROC5	EASY TRA v4.1	Inhalation exposure	Chronic inhalation systemic exposure	0.054 mg/l	< 1
PROC5	EASY TRA v4.1	Dermal exposure	Chronic dermal systemic exposure	0.0004 mg/kg	< 1
PROC8b	EASY TRA v4.1	Inhalation exposure	Chronic inhalation systemic exposure	0.027 mg/l	< 1
PROC8b	EASY TRA v4.1	Dermal exposure	Chronic dermal systemic exposure	0.007 mg/kg	< 1

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

Where other RMM/OC are adopted, then users should ensure that risks are managed to at least equivalent levels.
Estimated workplace exposures are not expected to exceed DNELs when the identified risk management measures are adopted.

1. Short title of Exposure Scenario: ES6, Operation and lubrication of high energy open equipment, (N-1-naphthylaniline, CAS: 90-30-2)

- Main User Groups : **SU 3:** Industrial uses: Uses of substances as such or in preparations at industrial sites
- Sectors of end-use : **SU3:** Industrial Manufacturing (all)
- Chemical product category : **PC17:** Hydraulic fluids
PC24: Lubricants, greases, release products

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Process categories : **PROC1:** Use in closed process, no likelihood of exposure
PROC2: Use in closed, continuous process with occasional controlled exposure
PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities
PROC17: Lubrication at high energy conditions and in partly open process
PROC18: Greasing at high energy conditions

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

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

Amount used

Daily amount per site : 16.7 kg
Annual amount per site : 5000 kg

Environment factors not influenced by risk management

Flow rate of receiving surface water : 18,000 m³/d
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 : 0.005 %
Emission or Release Factor: Water : 0.000001 %
Emission or Release Factor: Soil : 0 %

Technical conditions and measures / Organizational measures

Water : Product must not be released into water without pre-treatment.
Soil : Soil emission controls are not applicable as there is no direct release to soil.

Conditions and measures related to municipal sewage treatment plant

Type of Sewage Treatment Plant : Default industrial size
Flow rate of sewage treatment plant effluent : 2,000 m³/d

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Conditions and measures related to external treatment of waste for disposal

Disposal methods : Can be incinerated, when in compliance with local regulations.

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

Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 5%.

Physical Form (at time of use) : Liquid mixture
Vapour pressure : > 10 hPa

Frequency and duration of use

Exposure duration : > 240 min
Remarks : Covers daily exposures up to 8 hours (unless stated differently).

Human factors not influenced by risk management

Dermal exposure : 240 cm³

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor
Remarks : Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures

Handle substance within a closed system.

Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operatives are trained to minimise exposures., General standard operating procedures to control routine activities

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

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Effectiveness (of a measure): 95 %

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

Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 5%.

Physical Form (at time of use) : Liquid mixture

Frequency and duration of use

Exposure duration : > 240 min

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Remarks : Covers daily exposures up to 8 hours (unless stated differently).

Human factors not influenced by risk management

Dermal exposure : Palms of both hands (480 cm²)

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor
Remarks : Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures

Provide extraction ventilation at points where emissions occur. (Effectiveness (of a measure): 90 %)

Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operatives are trained to minimise exposures., General standard operating procedures to control routine activities

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

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Effectiveness (of a measure): 95 %)

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

Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 5%.

Physical Form (at time of use) : Liquid mixture

Frequency and duration of use

Exposure duration : < 240 min

Human factors not influenced by risk management

Dermal exposure : 960 cm³

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor
Remarks : Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures

Ensure adequate ventilation, especially in confined areas.

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Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operatives are trained to minimise exposures., General standard operating procedures to control routine activities

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

Wear chemically resistant gloves (tested to EN374) in combination with intensive management supervision controls. (Effectiveness (of a measure): 98 %

2.5 Contributing scenario controlling worker exposure for: PROC17, PROC18: Lubrication at high energy conditions and in partly open process, Greasing at high energy conditions

Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 5%.

Physical Form (at time of use) : Liquid mixture
Vapour pressure : > 10 hPa

Frequency and duration of use

Exposure duration : > 240 min
Remarks : Covers daily exposures up to 8 hours (unless stated differently).

Human factors not influenced by risk management

Dermal exposure : 960 cm³

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor
Remarks : Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures

Provide extraction ventilation at points where emissions occur. (Effectiveness (of a measure): 90 %

Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operatives are trained to minimise exposures., General standard operating procedures to control routine activities

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

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Effectiveness (of a measure): 95 %

3. Exposure estimation and reference to its source

Environment

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Contributing Scenario	Exposure Assessment Method	Specific conditions	Compartment	Value type	Level of Exposure	RCR
ERC4	EASY TRA v4.1		Fresh water	Predicted exposure concentration	< 1mg/l	< 1
ERC4	EASY TRA v4.1		Marine water	Predicted exposure concentration	< 1mg/l	< 1
ERC4	EASY TRA v4.1		Fresh water sediment	Predicted exposure concentration	< 1mg/kg-day	< 1
ERC4	EASY TRA v4.1		Marine sediment	Predicted exposure concentration	< 1mg/kg-day	< 1
ERC4	EASY TRA v4.1		Soil	Predicted exposure concentration	< 1mg/kg-day	< 1
ERC4	EASY TRA v4.1		STP	Predicted exposure concentration	< 1mg/l	< 1

Workers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value type	Level of Exposure	RCR
PROC1	EASY TRA v4.1	Inhalation exposure	Chronic inhalation systemic exposure	0.2197 mg/l	< 1
PROC1	EASY TRA v4.1	Dermal exposure	Chronic dermal systemic exposure	0.0029 mg/kg	< 1
PROC2	EASY TRA v4.1	Inhalation exposure	Chronic inhalation systemic exposure	0.2197 mg/l	< 1
PROC2	EASY TRA v4.1	Dermal exposure	Chronic dermal systemic exposure	0.0114 mg/kg	< 1
PROC8b	EASY TRA v4.1	Inhalation exposure	Chronic inhalation systemic exposure	0.0659 mg/l	< 1
PROC8b	EASY TRA v4.1	Dermal exposure	Chronic dermal systemic exposure	0.0571 mg/kg	< 1
PROC17	EASY TRA v4.1	Inhalation exposure	Chronic inhalation systemic exposure	0.0220 mg/l	< 1
PROC17	EASY TRA v4.1	Dermal exposure	Chronic dermal systemic exposure	0.229 mg/kg	< 1
PROC18	EASY TRA v4.1	Inhalation exposure	Chronic inhalation systemic exposure	< 1 mg/l	< 1
PROC18	EASY TRA v4.1	Dermal exposure	Chronic dermal systemic exposure	< 1 mg/kg	< 1

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

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Where other RMM/OC are adopted, then users should ensure that risks are managed to at least equivalent levels.

Estimated workplace exposures are not expected to exceed DNELs when the identified risk management measures are adopted.

1. Short title of Exposure Scenario: ES7, Use of lubricants and greases, vehicles and machinery, (N-1-naphthylaniline, CAS: 90-30-2)

- Main User Groups : **SU 22:** Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
- Sectors of end-use : **SU22:** Public domain (administration, education, entertainment, services, craftsmen)
- Chemical product category : **PC17:** Hydraulic fluids
PC24: Lubricants, greases, release products
- Process categories : **PROC1:** Use in closed process, no likelihood of exposure
PROC2: Use in closed, continuous process with occasional controlled exposure
PROC8a: Transfer of substance or preparation (charging/discharging) from/ to vessels/ large containers at non-dedicated facilities
PROC8b: Transfer of substance or preparation (charging/discharging) from/ to vessels/ large containers at dedicated facilities
PROC20: Heat and pressure transfer fluids in dispersive, professional use but closed systems
- Environmental Release Categories : **ERC9a:** Wide dispersive indoor use of substances in closed systems
ERC9b: Wide dispersive outdoor use of substances in closed systems

2.1 Contributing scenario controlling environmental exposure for: ERC9a, ERC9b: Wide dispersive indoor use of substances in closed systems, Wide dispersive outdoor use of substances in closed systems

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Amount used

Daily amount for wide dispersive uses : 0.002 kg
Annual amount for wide disperse uses : 15000 kg

Environment factors not influenced by risk management

Flow rate of receiving surface water : 18,000 m³/d
Dilution Factor (River) : 10
Dilution Factor (Coastal Areas) : 100

Other given operational conditions affecting environmental exposure

Number of emission days per year : 365
Emission or Release Factor: Air : 0.01 %
Emission or Release Factor: Water : 0.05 %
Emission or Release Factor: Soil : 0.1 %

Technical conditions and measures / Organizational measures

Water : Product must not be released into water without pre-treatment.

Conditions and measures related to municipal sewage treatment plant

Type of Sewage Treatment Plant : Municipal sewage treatment plant
Flow rate of sewage treatment plant effluent : 2,000 m³/d

Conditions and measures related to external treatment of waste for disposal

Disposal methods : Can be incinerated, when in compliance with local regulations.

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

Product characteristics

Concentration of the Substance in Mixture/Article : Covers percentage substance in the product up to 1 %
Physical Form (at time of use) : Liquid mixture
Vapour pressure : > 10 hPa

Frequency and duration of use

Exposure duration : > 240 min
Remarks : Covers daily exposures up to 8 hours (unless stated differently).

Human factors not influenced by risk management

Dermal exposure : 240 cm³

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Other operational conditions affecting workers exposure

Outdoor / Indoor : Covers indoor and outdoor use.
Remarks : Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures

Ensure adequate ventilation, especially in confined areas.

Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operatives are trained to minimise exposures.

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

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Effectiveness (of a measure): 90 %

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

Product characteristics

Concentration of the Substance in Mixture/Article : Covers percentage substance in the product up to 1 %.

Physical Form (at time of use) : Liquid mixture
Vapour pressure : > 10 hPa

Frequency and duration of use

Exposure duration : > 240 min
Remarks : Covers daily exposures up to 8 hours (unless stated differently).

Human factors not influenced by risk management

Dermal exposure : Palms of both hands (480 cm²)

Other operational conditions affecting workers exposure

Outdoor / Indoor : Covers indoor and outdoor use.
Remarks : Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures

Ensure adequate ventilation, especially in confined areas.

Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operatives are trained to minimise exposures.

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

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Effectiveness (of a measure): 90 %

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2.4 Contributing scenario controlling worker exposure for: PROC8a, PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities, Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities

Product characteristics

Concentration of the Substance in Mixture/Article : Covers percentage substance in the product up to 1 %.

Physical Form (at time of use) : Liquid mixture
Vapour pressure : > 10 hPa

Frequency and duration of use

Exposure duration : < 240 min

Human factors not influenced by risk management

Dermal exposure : 960 cm³

Other operational conditions affecting workers exposure

Outdoor / Indoor : Covers indoor and outdoor use.
Remarks : Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures

Ensure adequate ventilation, especially in confined areas.

Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operatives are trained to minimise exposures.

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

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Effectiveness (of a measure): 90 %

2.5 Contributing scenario controlling worker exposure for: PROC20: Heat and pressure transfer fluids in dispersive, professional use but closed systems

Product characteristics

Concentration of the Substance in Mixture/Article : Covers percentage substance in the product up to 1 %.

Physical Form (at time of use) : Liquid mixture
Vapour pressure : > 10 hPa

Frequency and duration of use

Exposure duration : < 240 min

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Human factors not influenced by risk management

Dermal exposure : Palms of both hands (480 cm²)

Other operational conditions affecting workers exposure

Outdoor / Indoor : Covers indoor and outdoor use.
Remarks : Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures

Ensure adequate ventilation, especially in confined areas.

Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operatives are trained to minimise exposures.

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

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Effectiveness (of a measure): 90 %

3. Exposure estimation and reference to its source

Environment

Contributing Scenario	Exposure Assessment Method	Specific conditions	Compartment	Value type	Level of Exposure	RCR
ERC9a, 9b	EASY TRA v4.1		Fresh water	Predicted exposure concentration	< 1mg/l	< 1
ERC9a, 9b	EASY TRA v4.1		Marine water	Predicted exposure concentration	< 1mg/l	< 1
ERC9a, 9b	EASY TRA v4.1		Fresh water sediment	Predicted exposure concentration	< 1mg/kg-day	< 1
ERC9a, 9b	EASY TRA v4.1		Marine sediment	Predicted exposure concentration	< 1mg/kg-day	< 1
ERC9a, 9b	EASY TRA v4.1		Soil	Predicted exposure concentration	< 1mg/kg-day	< 1
ERC9a, 9b	EASY TRA v4.1		STP	Predicted exposure concentration	< 1mg/l	< 1

Workers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value type	Level of Exposure	RCR
PROC1	EASY TRA	Inhalation exposure	Chronic inhalation	0.018 mg/l	< 1

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	v4.1		systemic exposure		
PROC1	EASY TRA v4.1	Dermal exposure	Chronic dermal systemic exposure	0.001 mg/kg	< 1
PROC2	EASY TRA v4.1	Inhalation exposure	Chronic inhalation systemic exposure	0.180 mg/l	< 1
PROC2	EASY TRA v4.1	Dermal exposure	Chronic dermal systemic exposure	0.003 mg/kg	< 1
PROC8a	EASY TRA v4.1	Inhalation exposure	Chronic inhalation systemic exposure	0.180 mg/l	< 1
PROC8a	EASY TRA v4.1	Dermal exposure	Chronic dermal systemic exposure	0.027 mg/kg	< 1
PROC8b	EASY TRA v4.1	Inhalation exposure	Chronic inhalation systemic exposure	0.180 mg/l	< 1
PROC8b	EASY TRA v4.1	Dermal exposure	Chronic dermal systemic exposure	0.014 mg/kg	< 1
PROC20	EASY TRA v4.1	Inhalation exposure	Chronic inhalation systemic exposure	0.180 mg/l	< 1
PROC20	EASY TRA v4.1	Dermal exposure	Chronic dermal systemic exposure	0.003 mg/kg	< 1

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

Where other RMM/OC are adopted, then users should ensure that risks are managed to at least equivalent levels.

Estimated workplace exposures are not expected to exceed DNELs when the identified risk management measures are adopted.

1. Short title of Exposure Scenario: ES8, Use of lubricants and greases, work pieces or equipment, Treatment by dipping and pouring, Rolling, Brushing, Spraying, (N-1-naphthylaniline, CAS: 90-30-2)

- Main User Groups : **SU 22:** Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
- Sectors of end-use : **SU 22:** Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
- Chemical product category : **PC24:** Lubricants, greases, release products
- Process categories : **PROC1:** Use in closed process, no likelihood of exposure

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PROC2: Use in closed, continuous process with occasional controlled exposure
PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities
PROC10: Roller application or brushing
PROC13: Treatment of articles by dipping and pouring

Environmental Release Categories : **ERC8a:** Wide dispersive indoor use of processing aids in open systems
ERC8d: Wide dispersive outdoor use of processing aids in open systems

2.1 Contributing scenario controlling environmental exposure for: ERC8a, ERC8d: Wide dispersive indoor use of processing aids in open systems, Wide dispersive outdoor use of processing aids in open systems

Amount used

Daily amount for wide dispersive uses : < 0.001 kg, 0.822 g/event
Annual amount for wide disperse uses : 6000 kg

Environment factors not influenced by risk management

Flow rate of receiving surface water : 18,000 m³/d
Dilution Factor (River) : 10
Dilution Factor (Coastal Areas) : 100

Other given operational conditions affecting environmental exposure

Number of emission days per year : 365
Emission or Release Factor: Air : 0.01 %
Emission or Release Factor: Water : 0.05 %
Emission or Release Factor: Soil : 0.1 %

Technical conditions and measures / Organizational measures

Water : Product must not be released into water without pre-treatment.

Conditions and measures related to municipal sewage treatment plant

Type of Sewage Treatment Plant : Municipal sewage treatment plant
Flow rate of sewage treatment plant effluent : 2,000 m³/d

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Conditions and measures related to external treatment of waste for disposal

Disposal methods : Can be incinerated, when in compliance with local regulations.

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

Product characteristics

Concentration of the Substance in Mixture/Article : Covers percentage substance in the product up to 1 %.

Physical Form (at time of use) : Liquid mixture

Frequency and duration of use

Exposure duration : > 240 min
Remarks : Covers daily exposures up to 8 hours (unless stated differently).

Human factors not influenced by risk management

Dermal exposure : 240 cm³

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor
Remarks : Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures

Ensure adequate ventilation, especially in confined areas.

Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operatives are trained to minimise exposures.

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

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Effectiveness (of a measure): 90 %

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

Product characteristics

Concentration of the Substance in Mixture/Article : Covers percentage substance in the product up to 1 %.

Physical Form (at time of use) : Liquid mixture

Frequency and duration of use

Exposure duration : > 240 min
Remarks : Covers daily exposures up to 8 hours (unless stated differently).

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Human factors not influenced by risk management

Dermal exposure : Palms of both hands (480 cm²)

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor
Remarks : Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures

Ensure adequate ventilation, especially in confined areas.

Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operatives are trained to minimise exposures.

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

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Effectiveness (of a measure): 90 %

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

Product characteristics

Concentration of the Substance in Mixture/Article : Covers percentage substance in the product up to 1 %.

Physical Form (at time of use) : Liquid mixture

Frequency and duration of use

Exposure duration : < 240 min

Human factors not influenced by risk management

Dermal exposure : 960 cm³

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor
Remarks : Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures

Ensure adequate ventilation, especially in confined areas.

Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operatives are trained to minimise exposures.

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

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Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Effectiveness (of a measure): 90 %)

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

Product characteristics

Concentration of the Substance in Mixture/Article : Covers percentage substance in the product up to 1 %.

Physical Form (at time of use) : Liquid mixture

Frequency and duration of use

Exposure duration : > 240 min

Remarks : Covers daily exposures up to 8 hours (unless stated differently).

Human factors not influenced by risk management

Dermal exposure : 960 cm³

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor

Remarks : Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures

Ensure adequate ventilation, especially in confined areas.

Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operatives are trained to minimise exposures.

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

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Effectiveness (of a measure): 90 %)

2.6 Contributing scenario controlling worker exposure for: PROC13: Treatment of articles by dipping and pouring

Product characteristics

Concentration of the Substance in Mixture/Article : Covers percentage substance in the product up to 1 %.

Physical Form (at time of use) : Liquid mixture

Frequency and duration of use

Exposure duration : > 240 min

Remarks : Covers daily exposures up to 8 hours (unless stated differently).

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Human factors not influenced by risk management

Dermal exposure : Palms of both hands (480 cm²)

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor
Remarks : Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures

Ensure adequate ventilation, especially in confined areas.

Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operatives are trained to minimise exposures.

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

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Effectiveness (of a measure): 90 %

3. Exposure estimation and reference to its source

Environment

Contributing Scenario	Exposure Assessment Method	Specific conditions	Compartment	Value type	Level of Exposure	RCR
ERC 8a, ERC 8d	EASY TRA v4.1		Fresh water	Predicted exposure concentration	< 1mg/l	< 1
ERC 8a, ERC 8d	EASY TRA v4.1		Marine water	Predicted exposure concentration	< 1mg/l	< 1
ERC 8a, ERC 8d	EASY TRA v4.1		Fresh water sediment	Predicted exposure concentration	< 1mg/kg-day	< 1
ERC 8a, ERC 8d	EASY TRA v4.1		Marine sediment	Predicted exposure concentration	< 1mg/kg-day	< 1
ERC 8a, ERC 8d	EASY TRA v4.1		Soil	Predicted exposure concentration	< 1mg/kg-day	< 1
ERC 8a, ERC 8d	EASY TRA v4.1		STP	Predicted exposure concentration	< 1mg/l	< 1

Workers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value type	Level of Exposure	RCR

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PROC1	EASY TRA v4.1	Inhalation exposure	Chronic inhalation systemic exposure	0.018 mg/l	< 1
PROC1	RISKOFDERM v2.1	Dermal exposure	Chronic dermal systemic exposure	0.001 mg/kg	< 1
PROC2	EASY TRA v4.1	Inhalation exposure	Chronic inhalation systemic exposure	0.180 mg/l	< 1
PROC2	RISKOFDERM v2.1	Dermal exposure	Chronic dermal systemic exposure	0.003 mg/kg	< 1
PROC8a	EASY TRA v4.1	Inhalation exposure	Chronic inhalation systemic exposure	0.180 mg/l	< 1
PROC8a	RISKOFDERM v2.1	Dermal exposure	Chronic dermal systemic exposure	0.027 mg/kg	< 1
PROC10	EASY TRA v4.1	Inhalation exposure	Chronic inhalation systemic exposure	0.180 mg/l	< 1
PROC10	RISKOFDERM v2.1	Dermal exposure	Chronic dermal systemic exposure	0.055 mg/kg	< 1
PROC13	EASY TRA v4.1	Inhalation exposure	Chronic inhalation systemic exposure	0.0180 mg/l	< 1
PROC13	RISKOFDERM v2.1	Dermal exposure	Chronic dermal systemic exposure	0.027 mg/kg	< 1

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

Where other RMM/OC are adopted, then users should ensure that risks are managed to at least equivalent levels.

Estimated workplace exposures are not expected to exceed DNELs when the identified risk management measures are adopted.

1. Short title of Exposure Scenario: ES9, Operation and lubrication of high energy open equipment, (N-1-naphthylaniline, CAS: 90-30-2)

- Main User Groups : **SU 22:** Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
- Sectors of end-use : **SU 22:** Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
- Chemical product category : **PC17:** Hydraulic fluids
PC24: Lubricants, greases, release products

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Process categories : **PROC1:** Use in closed process, no likelihood of exposure
PROC2: Use in closed, continuous process with occasional controlled exposure
PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities
PROC17: Lubrication at high energy conditions and in partly open process
PROC18: Greasing at high energy conditions

Environmental Release Categories : **ERC8a:** Wide dispersive indoor use of processing aids in open systems

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

Amount used

Daily amount for wide dispersive uses : < 0.001 kg, 0.685 g/event
Annual amount for wide disperse uses : 5000 kg

Environment factors not influenced by risk management

Flow rate of receiving surface water : 18,000 m³/d
Dilution Factor (River) : 10
Dilution Factor (Coastal Areas) : 100

Other given operational conditions affecting environmental exposure

Number of emission days per year : 365
Emission or Release Factor: Air : 0.01 %
Emission or Release Factor: Water : 0.1 %
Emission or Release Factor: Soil : 0.1 %

Technical conditions and measures / Organizational measures

Water : Product must not be released into water without pre-treatment.

Conditions and measures related to municipal sewage treatment plant

Type of Sewage Treatment Plant : Municipal sewage treatment plant
Flow rate of sewage treatment plant effluent : 2,000 m³/d

Conditions and measures related to external treatment of waste for disposal

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Disposal methods : Can be incinerated, when in compliance with local regulations.

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

Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 5%.

Physical Form (at time of use) : Liquid mixture

Frequency and duration of use

Exposure duration : > 240 min
Remarks : Covers daily exposures up to 8 hours (unless stated differently).

Human factors not influenced by risk management

Dermal exposure : 240 cm³

Other operational conditions affecting workers exposure

Remarks : Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures

Ensure adequate ventilation, especially in confined areas.

Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operatives are trained to minimise exposures.

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

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Effectiveness (of a measure): 95 %)

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

Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 5%.

Physical Form (at time of use) : Liquid mixture

Frequency and duration of use

Exposure duration : > 240 min
Remarks : Covers daily exposures up to 8 hours (unless stated differently).

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Human factors not influenced by risk management

Dermal exposure : Palms of both hands (480 cm²)

Other operational conditions affecting workers exposure

Remarks : Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures

Ensure adequate ventilation, especially in confined areas.

Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operatives are trained to minimise exposures.

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

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Effectiveness (of a measure): 95 %

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

Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 5%.

Physical Form (at time of use) : Liquid mixture

Frequency and duration of use

Exposure duration : < 240 min

Human factors not influenced by risk management

Dermal exposure : 960 cm³

Other operational conditions affecting workers exposure

Remarks : Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures

Ensure adequate ventilation, especially in confined areas.

Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operatives are trained to minimise exposures.

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

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Effectiveness (of a measure): 95 %

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2.5 Contributing scenario controlling worker exposure for: PROC17, PROC18: Lubrication at high energy conditions and in partly open process, Greasing at high energy conditions

Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 5%.

Physical Form (at time of use) : Liquid mixture

Frequency and duration of use

Exposure duration : > 240 min
Remarks : Covers daily exposures up to 8 hours (unless stated differently).

Human factors not influenced by risk management

Dermal exposure : 960 cm³

Other operational conditions affecting workers exposure

Remarks : Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures

Provide extraction ventilation at points where emissions occur. (Effectiveness (of a measure): 80 %)

Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operatives are trained to minimise exposures.

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

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Effectiveness (of a measure): 95 %)

3. Exposure estimation and reference to its source

Environment

Contributing Scenario	Exposure Assessment Method	Specific conditions	Compartment	Value type	Level of Exposure	RCR
ERC8a	EASY TRA v4.1		Fresh water	Predicted exposure concentration	< 1mg/l	< 1
ERC8a	EASY TRA v4.1		Marine water	Predicted exposure concentration	< 1mg/l	< 1
ERC8a	EASY TRA v4.1		Fresh water sediment	Predicted exposure	< 1mg/kg-day	< 1

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ERC8a	EASY TRA v4.1		Marine sediment	Predicted exposure concentration	< 1mg/kg-day	< 1
ERC8a	EASY TRA v4.1		Soil	Predicted exposure concentration	< 1mg/kg-day	< 1
ERC8a	EASY TRA v4.1		STP	Predicted exposure concentration	< 1mg/l	< 1

Workers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value type	Level of Exposure	RCR
PROC1	EASY TRA v4.1	Inhalation exposure	Chronic inhalation systemic exposure	0.0439 mg/l	< 1
PROC1	RISKOFDERM v2.1	Dermal exposure	Chronic dermal systemic exposure	0.0057 mg/kg	< 1
PROC2	EASY TRA v4.1	Inhalation exposure	Chronic inhalation systemic exposure	0.4393 mg/l	< 1
PROC2	RISKOFDERM v2.1	Dermal exposure	Chronic dermal systemic exposure	0.0229 mg/kg	< 1
PROC8a	EASY TRA v4.1	Inhalation exposure	Chronic inhalation systemic exposure	0.4393 mg/l	< 1
PROC8a	RISKOFDERM v2.1	Dermal exposure	Chronic dermal systemic exposure	0.2286 mg/kg	< 1
PROC17	EASY TRA v4.1	Inhalation exposure	Chronic inhalation systemic exposure	0.4393 mg/l	< 1
PROC17	RISKOFDERM v2.1	Dermal exposure	Chronic dermal systemic exposure	0.4571 mg/kg	< 1
PROC2	EASY TRA v4.1	Inhalation exposure	Chronic inhalation systemic exposure	0.4393 mg/l	< 1
PROC2	RISKOFDERM v2.1	Dermal exposure	Chronic dermal systemic exposure	0.0229 mg/kg	< 1
PROC8a	EASY TRA v4.1	Inhalation exposure	Chronic inhalation systemic exposure	0.4393 mg/l	< 1
PROC8a	RISKOFDERM v2.1	Dermal exposure	Chronic dermal systemic exposure	0.2286 mg/kg	< 1
PROC17	EASY TRA v4.1	Inhalation exposure	Chronic inhalation systemic exposure	0.4393 mg/l	< 1
PROC17	RISKOFDERM v2.1	Dermal exposure	Chronic dermal systemic exposure	0.4571 mg/kg	< 1
PROC18	EASY TRA v4.1	Inhalation exposure	Chronic inhalation systemic exposure	0.4393 mg/l	< 1
PROC18	RISKOFDERM v2.1	Dermal exposure	Chronic dermal systemic exposure	0.4571 mg/kg	< 1

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



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

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Where other RMM/OC are adopted, then users should ensure that risks are managed to at least equivalent levels.

Estimated workplace exposures are not expected to exceed DNELs when the identified risk management measures are adopted.