

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

ANDEROL FGH 15

Version	Revision Date:	SDS Number:	Date of last issue: 06.10.2020
1.8	22.08.2022	000000007055	Date of first issue: 24.11.2011

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

1.1 Product identifier

Trade name : ANDEROL FGH 15

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

Use of the Sub-
stance/Mixture : Lubricant

Recommended restrictions
on use : Restricted to professional users.

1.3 Details of the supplier of the safety data sheet

Company: Supplier
LANXESS Deutschland GmbH
Production, Technology, Safety & Environment
Leverkusen
Germany
51369

Manufacturer
Anderol Specialty Lubricants
Groot Egtenrayseweg 23
5928 PA Venlo
Netherlands
Telephone : +31-77 396 0340

Prepared by : Production, Technology, Safety & Environment
+4922188852288

Further information for the safety data sheet :
infosds@lanxess.com

1.4 Emergency telephone number

+44 20 3885 0382 (CCN1001748)
Poison Information Centre telephone number +45 8212 1212

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SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Aspiration hazard, Category 1

H304: May be fatal if swallowed and enters airways.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms



Signal word : Danger

Hazard statements : H304 May be fatal if swallowed and enters airways.

Precautionary statements : **Response:**
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
P331 Do NOT induce vomiting.

Storage:

P405 Store locked up.

Disposal:

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

Hazardous components which must be listed on the label:

Dec-1-ene, trimers, hydrogenated

Dec-1-ene, dimers, hydrogenated

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.

Ecological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Toxicological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

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SECTION 3: Composition/information on ingredients

3.2 Mixtures

Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
Dec-1-ene, trimers, hydrogenated	157707-86-3 500-393-3 01-2119493949-12- xxxx	Asp. Tox. 1; H304	>= 70 - < 90
Dec-1-ene, dimers, hydrogenated	68649-11-6 500-228-5 01-2119493069-28- xxxx	Asp. Tox. 1; H304 Acute Tox. 4; H332	>= 1 - < 10
Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene	68411-46-1 270-128-1 01-2119491299-23- 0002	Repr. 2; H361f	>= 0.1 - < 1

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

- General advice : No hazards which require special first aid measures.
- If inhaled : Move to fresh air in case of accidental inhalation of dust or fumes from overheating or combustion.
If symptoms persist, call a physician.
- In case of skin contact : Take off contaminated clothing and shoes immediately.
Wash off with soap and plenty of water.
- In case of eye contact : Flush eyes with water as a precaution.
Remove contact lenses.
Protect unharmed eye.
Keep eye wide open while rinsing.
- If swallowed : Clean mouth with water and drink afterwards plenty of water.
Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms : None known.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : For specialist advice physicians should contact the Poisons

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Information Service.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

5.2 Special hazards arising from the substance or mixture

Specific hazards during fire-fighting : Do not allow run-off from fire fighting to enter drains or water courses.

5.3 Advice for firefighters

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

Further information : Standard procedure for chemical fires.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Use personal protective equipment.

6.2 Environmental precautions

Environmental precautions : No special environmental precautions required.

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

6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Wipe up with absorbent material (e.g. cloth, fleece).
Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling : For personal protection see section 8.
No special handling advice required.

Advice on protection against fire and explosion : Normal measures for preventive fire protection.

Hygiene measures : General industrial hygiene practice.

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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.

Advice on common storage : No special restrictions on storage with other products.

Further information on storage stability : No decomposition if stored and applied as directed.

7.3 Specific end use(s)

Specific use(s) : Raw material for industry

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Contains no substances with occupational exposure limit values.

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

Substance name	End Use	Exposure routes	Potential health effects	Value
Dec-1-ene, dimers, hydrogenated	Workers	Inhalation	Acute systemic effects	60 mg/m ³
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
	General exposures	Ingestion	Chronic effects, Systemic effects	0.31 mg/kg

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

Substance name	Environmental Compartment	Value
Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene	Fresh water	0.051 mg/l
	Marine water	0.0051 mg/l
	Fresh water sediment	9320 mg/kg
	Marine sediment	932 mg/kg
	Soil	1860 mg/kg
	STP	1 mg/l

8.2 Exposure controls

Engineering measures

Effective exhaust ventilation system

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Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protective equipment

Eye protection : Safety glasses

Hand protection

Remarks : For prolonged or repeated contact use protective gloves.

Skin and body protection : Protective suit

Respiratory protection : No personal respiratory protective equipment normally required.

In case of mist, spray or aerosol exposure wear suitable personal respiratory protection and protective suit.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	:	liquid
Colour	:	clear
Odour	:	No data available
Odour Threshold	:	No data available
Melting point/range	:	No data available
Boiling point/boiling range	:	No data available
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Flash point	:	210 °C Method: ASTM D 92
Auto-ignition temperature	:	No data available
pH	:	No data available
Viscosity	:	
Viscosity, kinematic	:	14.7 mm ² /s (40 °C)
Solubility(ies)	:	
Water solubility	:	No data available
Solubility in other solvents	:	No data available

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Partition coefficient: n-octanol/water : No data available

Vapour pressure : No data available

Relative density : No data available

Density : 0.818 g/cm³ (15 °C)

Relative vapour density : No data available

9.2 Other information

Evaporation rate : No data available

Oxidizing potential : No information available.

SECTION 10: Stability and reactivity

10.1 Reactivity

Stable under recommended storage conditions.

10.2 Chemical stability

No decomposition if stored and applied as directed.

10.3 Possibility of hazardous reactions

Hazardous reactions : No hazards to be specially mentioned.

10.4 Conditions to avoid

Conditions to avoid : Exposure to moisture
Contamination

10.5 Incompatible materials

Materials to avoid : Strong acids and oxidizing agents

10.6 Hazardous decomposition products

Hazardous decomposition products : Carbon oxides

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity

Product:

Acute oral toxicity : Remarks: Not classified due to lack of data.

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Acute inhalation toxicity : Acute toxicity estimate: 183.33 mg/l
Test atmosphere: vapour
Method: Calculation method

Remarks: Not classified due to lack of data.

Acute dermal toxicity : Remarks: Not classified due to lack of data.

Components:

Dec-1-ene, trimers, hydrogenated:

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

Dec-1-ene, dimers, hydrogenated:

Acute oral toxicity : LD50 (Rat, male and female): > 5,000 mg/kg

Acute inhalation toxicity : LC50 (Rat, male and female): 1.17 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
GLP: yes

Acute dermal toxicity : LD50 (Rat, male and female): > 2,000 mg/kg
Method: OECD Test Guideline 402
GLP: yes
Assessment: The substance or mixture has no acute dermal toxicity
Remarks: No mortality observed at this dose.

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

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg
Method: OECD Test Guideline 401

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity
Remarks: No mortality observed at this dose.

Skin corrosion/irritation

Product:

Remarks : According to the classification criteria of the European Union, the product is not considered as being a skin irritant.

Components:

Dec-1-ene, dimers, hydrogenated:

Species : Rabbit
Result : No skin irritation

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

Species : Rabbit
Method : OECD-Guideline No. 404
Result : Mild skin irritation

Serious eye damage/eye irritation

Product:

Remarks : According to the classification criteria of the European Union, the product is not considered as being an eye irritant.

Components:

Dec-1-ene, dimers, hydrogenated:

Species : Rabbit
Result : No eye irritation

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

Species : Rabbit
Method : OECD Test Guideline 405
Result : No eye irritation

Respiratory or skin sensitisation

Product:

Remarks : Not classified due to lack of data.

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

Germ cell mutagenicity

Product:

Germ cell mutagenicity- Assessment : Not classified due to lack of data.

Components:

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

Germ cell mutagenicity- Assessment : Not mutagenic in Ames Test

Carcinogenicity

Product:

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Carcinogenicity - Assessment : Not classified due to lack of data.

Reproductive toxicity

Product:

Reproductive toxicity - Assessment : Not classified due to lack of data.

Components:

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

Effects on fertility : Test Type: Fertility/early embryonic development
Species: Rat, male and female
Application Route: Oral
Dose: 25-75-225 milligram per kilogram
General Toxicity - Parent: NOAEL: 25 mg/kg bw/day
Fertility: NOEL: 225 mg/kg bw/day
Method: OECD Test Guideline 422
Result: Animal testing did not show any effects on fertility.
GLP: yes

Test Type: Fertility/early embryonic development
Species: Rat, male and female
Strain: wistar
Application Route: Ingestion
Dose: 0-200-600-1800 parts per million
Method: OECD Test Guideline 443
Result: Some evidence of adverse effects on development, based on animal experiments.
GLP: No information available.

Effects on foetal development : Test Type: Embryo-foetal development
Species: Rabbit, female
Application Route: Oral
Dose: 10-30-100 milligram per kilogram
General Toxicity Maternal: NOAEL: 30 mg/kg bw/day
Teratogenicity: NOAEL: 100 mg/kg bw/day
Developmental Toxicity: NOEL: 30 mg/kg bw/day
Method: OECD Test Guideline 414
Result: Embryotoxic effects and adverse effects on the offspring were detected only at high maternally toxic doses
GLP: yes

Test Type: Embryo-foetal development
Species: Rat, female
Application Route: Oral
Dose: 50-150-500 milligram per kilogram
General Toxicity Maternal: NOAEL: 150 mg/kg bw/day
Teratogenicity: NOAEL: 500 mg/kg bw/day
Developmental Toxicity: NOAEL: 500 mg/kg body weight
Method: OECD Test Guideline 414
Result: negative

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GLP: yes

Reproductive toxicity - Assessment : Some evidence of adverse effects on sexual function and fertility, based on animal experiments.

STOT - single exposure

Product:

Assessment : Not classified due to lack of data.

STOT - repeated exposure

Product:

Assessment : Not classified due to lack of data.

Aspiration toxicity

Components:

Dec-1-ene, trimers, hydrogenated:

May be fatal if swallowed and enters airways.

Dec-1-ene, dimers, hydrogenated:

May be fatal if swallowed and enters airways.

11.2 Information on other hazards

Endocrine disrupting properties

Product:

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Further information

Product:

Remarks : No data available

SECTION 12: Ecological information

12.1 Toxicity

Product:

Toxicity to fish : Remarks: No data available

Toxicity to daphnia and other : Remarks: No data available

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aquatic invertebrates

Components:

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

- Toxicity to fish : LC50 (Danio rerio (zebra fish)): > 100 mg/l
End point: mortality
Exposure time: 96 h
Test Type: static test
Analytical monitoring: yes
Method: OECD Test Guideline 203
GLP: no
Remarks: Fresh water
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 51 mg/l
End point: Immobilization
Exposure time: 48 h
Test Type: static test
Analytical monitoring: yes
Method: OECD Test Guideline 202
GLP: yes
Remarks: Fresh water
- Toxicity to algae/aquatic plants : EbC50 (Desmodesmus subspicatus (green algae)): > 100 mg/l
End point: Growth rate
Exposure time: 72 h
Test Type: static test
Analytical monitoring: no
Method: OECD Test Guideline 201
GLP: no
Remarks: Fresh water
- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : EL10: 1.69 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)
Analytical monitoring: no
Method: OECD Test Guideline 211
GLP: yes
Remarks: Fresh water

Ecotoxicology Assessment

- Chronic aquatic toxicity : No toxicity at the limit of solubility, This product has no known ecotoxicological effects.

12.2 Persistence and degradability

Product:

- Biodegradability : Result: No data available

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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

12.3 Bioaccumulative potential

Product:

Bioaccumulation : Remarks: No data available

Components:

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

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

12.4 Mobility in soil

Product:

Mobility : Remarks: 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 Endocrine disrupting properties

Product:

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

12.7 Other adverse effects

Product:

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

SECTION 13: Disposal considerations

13.1 Waste treatment methods

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Product	:	Offer surplus and non-recyclable solutions to a licensed disposal company.
Contaminated packaging	:	Empty remaining contents. Empty containers should be taken to an approved waste handling site for recycling or disposal.

SECTION 14: Transport information

14.1 UN number or ID 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

Not applicable

14.7 Maritime transport in bulk according to IMO instruments

Not applicable for product as supplied.

SECTION 15: Regulatory information

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

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII)	:	Conditions of restriction for the following entries should be considered: Number on list 3
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 (EU) 2019/1021 on persistent organic pollutants (recast)	:	Not applicable
Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals	:	Not applicable
REACH - List of substances subject to authorisation	:	Not applicable

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(Annex XIV)

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.	Not applicable
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The components of this product are reported in the following inventories:

DSL	: All components of this product are on the Canadian DSL
AICS	: On the inventory, or 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	: On the inventory, or in compliance with the inventory
IECSC	: On the inventory, or in compliance with the inventory
TCSI	: On the inventory, or in compliance with the inventory
US.TSCA	: Substance(s) not listed on TSCA inventory

15.2 Chemical safety assessment

Chemical Safety Assessments have been carried out for these substances.

SECTION 16: Other information

Full text of H-Statements

H304	: May be fatal if swallowed and enters airways.
H332	: Harmful if inhaled.
H361f	: Suspected of damaging fertility.

Full text of other abbreviations

Acute Tox.	: Acute toxicity
Asp. Tox.	: Aspiration hazard

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Repr. : Reproductive toxicity

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

Further information

Classification of the mixture:

Asp. Tox. 1

H304

Classification procedure:

Calculation method

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.

DK / EN

ES 1	Use at industrial sites; Industrial use; Lubricant.
ES 2	Widespread use by professional workers; Professional use; Lubricant.

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ES 1: Use at industrial sites; Industrial use; Lubricant.

1.1. Title section

Exposure Scenario name	: Lubricant, Industrial use
Structured Short Title	: Use at industrial sites; Industrial use; Lubricant.

Environment		
CS 1	Industrial use of processing aids in processes and products, not becoming part of articles, Industrial use of substances in closed systems	ERC4, ERC7
Worker		
CS 2	no sampling, General exposures (closed systems)	PROC1, CS57, CS15
CS 3	with sample collection, General exposures (closed systems)	PROC3, CS56, CS15
CS 4	Storage, General exposures (open systems), With potential for aerosol generation, Remanufacture of reject articles	PROC4, CS67, CS16, CS138, CS19
CS 5	Without Local Exhaust Ventilation, Spraying, With Local Exhaust Ventilation	PROC7,,
CS 6	Storage, Bulk transfers, Filling/ preparation of equipment from drums or containers., Manual, Maintenance (of larger plant items) and machine set up, Elevated temperature	PROC8a, CS67, CS14, CS45, CS34, CS77, CS111
CS 7	Storage, Bulk transfers, Filling/ preparation of equipment from drums or containers., Machine, Maintenance (of larger plant items) and machine set up, Elevated temperature	PROC8b, CS67, CS14, CS45, CS33, CS77, CS111
CS 8	Storage, Maintenance of small items, Initial factory fill of equipment	PROC9, CS67, CS18, CS75
CS 9	Rolling, Brushing	PROC10
CS 10	Treatment by dipping and pouring	PROC13
CS 11	With potential for aerosol generation, Operation and lubrication of high energy open equipment	PROC17, CS138, CS17
CS 12	Use in closed, continuous process with occasional controlled exposure, Operation and lubrication of high energy open equipment	PROC18, PROC2, CS17

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1.2. Conditions of use affecting exposure

1.2.1. Control of environmental exposure: Industrial use of processing aids in processes and products, not becoming part of articles (ERC4) / Industrial use of substances in closed systems (ERC7)

Product (article) characteristics	
Covers the percentage of the substance in the product up to 100 % (unless stated differently).	
Physical form of product	: Liquid, vapour pressure < 0.5 kPa at Standard Temperature and Pressure
Amount used (or contained in articles), frequency and duration of use/exposure	
Not applicable	
Technical and organisational conditions and measures	
Bund storage facilities to prevent soil and water pollution in the event of spillage.	
Conditions and measures related to sewage treatment plant	
STP type	: No specific measures identified.
Conditions and measures related to treatment of waste (including article waste)	
Waste treatment	: External recovery and recycling of waste should comply with applicable local and/or national regulations.
Other conditions affecting environmental exposure	
Local freshwater dilution factor	: 10
Local marine water dilution factor	: 100
No toxicity at the limit of solubility	

1.2.2. Control of worker exposure: Use in closed process, no likelihood of exposure (PROC1) / no sampling (CS57) / General exposures (closed systems) (CS15)

Product (article) characteristics	
Covers the percentage of the substance in the product up to 100 % (unless stated differently).	
Physical form of product	: Liquid, vapour pressure < 0.5 kPa at Standard Temperature and Pressure
Amount used (or contained in articles), frequency and duration of use/exposure	
Use frequency	: Covers daily exposures up to 8 hours (unless stated different-

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ly).
Not applicable
Technical and organisational conditions and measures
Handle substance within a closed system.
Clear spills immediately.
Avoid splashing. Clean equipment and the work area every day.
Conditions and measures related to personal protection, hygiene and health evaluation
Wear chemically resistant gloves (tested to EN374) in combination with specific activity training. When prolonged exposure is expected:
Other conditions affecting workers exposure
Assumes a good basic standard of occupational hygiene is implemented
Assumes use at not more than 20°C above ambient temperature.
Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply
Available hazard data do not enable the derivation of a DNEL for dermal irritant effects. A quantitative risk assessment is not required for human health.

1.2.3. Control of worker exposure: Use in closed batch process (synthesis or formulation) (PROC3) / with sample collection (CS56) / General exposures (closed systems) (CS15)

Product (article) characteristics	
Covers the percentage of the substance in the product up to 100 % (unless stated differently).	
Physical form of product	: Liquid, vapour pressure < 0.5 kPa at Standard Temperature and Pressure
Amount used (or contained in articles), frequency and duration of use/exposure	
Use frequency	: Covers daily exposures up to 8 hours (unless stated differently).
Not applicable	
Technical and organisational conditions and measures	
Ensure samples are obtained under containment or extract ventilation. Handle substance within a closed system.	
Clear spills immediately.	
Avoid splashing.	

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Clean equipment and the work area every day.
Conditions and measures related to personal protection, hygiene and health evaluation
Wear chemically resistant gloves (tested to EN374) in combination with specific activity training. When prolonged exposure is expected:
Other conditions affecting workers exposure
Assumes a good basic standard of occupational hygiene is implemented
Assumes use at not more than 20°C above ambient temperature.
Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply
Available hazard data do not enable the derivation of a DNEL for dermal irritant effects. A quantitative risk assessment is not required for human health.

1.2.4. Control of worker exposure: Use in batch and other process (synthesis) where opportunity for exposure arises (PROC4) / Storage (CS67) / General exposures (open systems) (CS16) / With potential for aerosol generation (CS138) / Remanufacture of reject articles (CS19)

Product (article) characteristics
Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical form of product : Liquid, vapour pressure < 0.5 kPa at Standard Temperature and Pressure
Amount used (or contained in articles), frequency and duration of use/exposure
Use frequency : Covers daily exposures up to 8 hours (unless stated differently).
Not applicable
Technical and organisational conditions and measures
Ensure samples are obtained under containment or extract ventilation. Formulate in enclosed or ventilated mixing vessels. Transfer via enclosed lines.
Clear spills immediately.
Avoid splashing. Clean equipment and the work area every day.
Conditions and measures related to personal protection, hygiene and health evaluation
Protective gloves complying with EN 374.
Other conditions affecting workers exposure

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Assumes a good basic standard of occupational hygiene is implemented
Assumes use at not more than 20°C above ambient temperature.
Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply
Retain drain downs in sealed storage pending disposal or for subsequent recycle. Available hazard data do not enable the derivation of a DNEL for dermal irritant effects. A quantitative risk assessment is not required for human health.

1.2.5. Control of worker exposure: Industrial spraying (PROC7) / Without Local Exhaust Ventilation () / With Local Exhaust Ventilation ()

Product (article) characteristics
Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical form of product : Liquid, vapour pressure < 0.5 kPa at Standard Temperature and Pressure
Amount used (or contained in articles), frequency and duration of use/exposure
Use frequency : Covers daily exposures up to 8 hours (unless stated differently).
Not applicable
Technical and organisational conditions and measures
Apply within a vented cab supplied with filtered air under positive pressure and with a protection factor of >20.
Clear spills immediately.
Avoid splashing. Clean equipment and the work area every day.
Conditions and measures related to personal protection, hygiene and health evaluation
Change filter cartridge on respirator daily. When spraying without ventilation: Wear a respirator conforming to EN140 with Type A filter or better.
Wear suitable gloves tested to EN374.
Other conditions affecting workers exposure
Assumes a good basic standard of occupational hygiene is implemented
Assumes use at not more than 20°C above ambient temperature.
Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply
Available hazard data do not enable the derivation of a DNEL for dermal irritant effects.

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A quantitative risk assessment is not required for human health.

1.2.6. Control of worker exposure: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities (PROC8a) / Storage (CS67) / Bulk transfers (CS14) / Filling/ preparation of equipment from drums or containers. (CS45) / Manual (CS34) / Maintenance (of larger plant items) and machine set up (CS77) / Elevated temperature (CS111)

Product (article) characteristics	
Covers the percentage of the substance in the product up to 100 % (unless stated differently).	
Physical form of product	: Liquid, vapour pressure < 0.5 kPa at Standard Temperature and Pressure
Amount used (or contained in articles), frequency and duration of use/exposure	
Use frequency	: Covers daily exposures up to 8 hours (unless stated differently).
Not applicable	
Technical and organisational conditions and measures	
Ensure samples are obtained under containment or extract ventilation. Provide extract ventilation to material transfer points and other openings. Transfer via enclosed lines. Clear transfer lines prior to de-coupling.	
Use drum pumps.	
Clear spills immediately.	
Avoid splashing. Clean equipment and the work area every day.	
Conditions and measures related to personal protection, hygiene and health evaluation	
Wear suitable coveralls to prevent exposure to the skin.	
Other conditions affecting workers exposure	
Assumes a good basic standard of occupational hygiene is implemented	
Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply	
Available hazard data do not enable the derivation of a DNEL for dermal irritant effects. A quantitative risk assessment is not required for human health.	

1.2.7. Control of worker exposure: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities (PROC8b) / Storage (CS67) / Bulk transfers (CS14) / Filling/ preparation of equipment from drums or containers. (CS45) / Machine

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(CS33) / Maintenance (of larger plant items) and machine set up (CS77) / Elevated temperature (CS111)

Product (article) characteristics	
Covers the percentage of the substance in the product up to 100 % (unless stated differently).	
Physical form of product	: Liquid, vapour pressure < 0.5 kPa at Standard Temperature and Pressure
Amount used (or contained in articles), frequency and duration of use/exposure	
Use frequency	: Covers daily exposures up to 8 hours (unless stated differently).
Not applicable	
Technical and organisational conditions and measures	
Ensure samples are obtained under containment or extract ventilation. Provide extract ventilation to material transfer points and other openings. Transfer via enclosed lines. Clear transfer lines prior to de-coupling.	
Clear spills immediately.	
Avoid splashing. Clean equipment and the work area every day.	
Conditions and measures related to personal protection, hygiene and health evaluation	
Wear suitable coveralls to prevent exposure to the skin.	
Other conditions affecting workers exposure	
Assumes a good basic standard of occupational hygiene is implemented	
Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply	
Available hazard data do not enable the derivation of a DNEL for dermal irritant effects. A quantitative risk assessment is not required for human health.	

1.2.8. Control of worker exposure: Transfer of substance or preparation into small containers (dedicated filling line, including weighing) (PROC9) / Storage (CS67) / Maintenance of small items (CS18) / Initial factory fill of equipment (CS75)

Product (article) characteristics	
Covers the percentage of the substance in the product up to 100 % (unless stated differently).	
Physical form of product	: Liquid, vapour pressure < 0.5 kPa at Standard Temperature and Pressure

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Amount used (or contained in articles), frequency and duration of use/exposure	
Use frequency	: Covers daily exposures up to 8 hours (unless stated differently).
Not applicable	
Technical and organisational conditions and measures	
Ensure samples are obtained under containment or extract ventilation. Use in semi-automated and predominantly enclosed filling lines.	
Clear spills immediately.	
Avoid splashing. Clean equipment and the work area every day.	
Conditions and measures related to personal protection, hygiene and health evaluation	
Wear suitable coveralls to prevent exposure to the skin.	
Other conditions affecting workers exposure	
Assumes a good basic standard of occupational hygiene is implemented	
Assumes use at not more than 20°C above ambient temperature.	
Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply	
Retain drain downs in sealed storage pending disposal or for subsequent recycle. Available hazard data do not enable the derivation of a DNEL for dermal irritant effects. A quantitative risk assessment is not required for human health.	

1.2.9. Control of worker exposure: Roller application or brushing (PROC10)

Product (article) characteristics	
Covers the percentage of the substance in the product up to 100 % (unless stated differently).	
Physical form of product	: Liquid, vapour pressure < 0.5 kPa at Standard Temperature and Pressure
Amount used (or contained in articles), frequency and duration of use/exposure	
Use frequency	: Covers daily exposures up to 8 hours (unless stated differently).
Not applicable	
Technical and organisational conditions and measures	
Clear spills immediately.	

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Avoid splashing. Clean equipment and the work area every day.
Conditions and measures related to personal protection, hygiene and health evaluation
Wear suitable gloves tested to EN374. Wear suitable coveralls to prevent exposure to the skin.
Other conditions affecting workers exposure
Assumes a good basic standard of occupational hygiene is implemented
Assumes use at not more than 20°C above ambient temperature.
Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply
Available hazard data do not enable the derivation of a DNEL for dermal irritant effects. A quantitative risk assessment is not required for human health.

1.2.10. Control of worker exposure: Treatment of articles by dipping and pouring (PROC13)

Product (article) characteristics
Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical form of product : Liquid, vapour pressure < 0.5 kPa at Standard Temperature and Pressure
Amount used (or contained in articles), frequency and duration of use/exposure
Use frequency : Covers daily exposures up to 8 hours (unless stated differently).
Not applicable
Technical and organisational conditions and measures
Use ventilation to extract vapours from freshly coated articles/objects.
Clear spills immediately.
Avoid splashing. Clean equipment and the work area every day.
Conditions and measures related to personal protection, hygiene and health evaluation
Wear suitable gloves tested to EN374. Wear suitable coveralls to prevent exposure to the skin.
Other conditions affecting workers exposure
Assumes a good basic standard of occupational hygiene is implemented

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Assumes use at not more than 20°C above ambient temperature.

Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Available hazard data do not enable the derivation of a DNEL for dermal irritant effects.
A quantitative risk assessment is not required for human health.

1.2.11. Control of worker exposure: Lubrication at high energy conditions and in partly open process (PROC17) / With potential for aerosol generation (CS138) / Operation and lubrication of high energy open equipment (CS17)

Product (article) characteristics

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

Physical form of product : Liquid, vapour pressure < 0.5 kPa at Standard Temperature and Pressure

Amount used (or contained in articles), frequency and duration of use/exposure

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

Not applicable

Technical and organisational conditions and measures

Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.
Restrict area of openings to equipment.

Clear spills immediately.

Avoid splashing.
Clean equipment and the work area every day.

Other conditions affecting workers exposure

Assumes a good basic standard of occupational hygiene is implemented

Assumes use at not more than 20°C above ambient temperature.

Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Available hazard data do not enable the derivation of a DNEL for dermal irritant effects.
A quantitative risk assessment is not required for human health.

1.2.12. Control of worker exposure: Greasing at high energy conditions (PROC18) / Use in closed, continuous process with occasional controlled exposure (PROC2) / Operation and lubrication of high energy open equipment (CS17)

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Product (article) characteristics	
Covers the percentage of the substance in the product up to 100 % (unless stated differently).	
Physical form of product	: Liquid, vapour pressure < 0.5 kPa at Standard Temperature and Pressure
Amount used (or contained in articles), frequency and duration of use/exposure	
Use frequency	: Covers daily exposures up to 8 hours (unless stated differently).
Not applicable	
Technical and organisational conditions and measures	
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings. Restrict area of openings to equipment.	
Clear spills immediately.	
Avoid splashing. Clean equipment and the work area every day.	
Other conditions affecting workers exposure	
Assumes a good basic standard of occupational hygiene is implemented	
Assumes use at not more than 20°C above ambient temperature.	
Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply	
Available hazard data do not enable the derivation of a DNEL for dermal irritant effects. A quantitative risk assessment is not required for human health.	

1.3. Exposure estimation and reference to its source

Release estimation method:

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1.4. Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Fulfilling the above conditions the downstream user is deemed to work safely inside the boundaries set by this exposure scenario.

Other conditions should only be considered if the downstream user implements or recommends an exposure scenario which includes as a minimum the conditions described in this exposure scenario.

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ES 2: Widespread use by professional workers; Professional use; Lubricant.

2.1. Title section

Exposure Scenario name	: Lubricant, Professional use
Structured Short Title	: Widespread use by professional workers; Professional use; Lubricant.

Environment		
CS 1	Wide dispersive indoor use of processing aids in open systems, Wide dispersive outdoor use of processing aids in open systems, Wide dispersive indoor use of substances in closed systems, Wide dispersive outdoor use of substances in closed systems	ERC8a, ERC8d, ERC9a, ERC9b
Worker		
CS 2	no sampling, General exposures (closed systems)	PROC1, CS57, CS15
CS 3	with sample collection, General exposures (closed systems)	PROC3, CS56, CS15
CS 4	Batch process, General exposures (open systems), With potential for aerosol generation	PROC4, CS16, CS138
CS 5	Elevated temperature, Bulk transfers, Filling/ preparation of equipment from drums or containers., Maintenance (of larger plant items) and machine set up	PROC8a, CS111, CS14, CS45, CS77
CS 6	Elevated temperature, Bulk transfers, Filling/ preparation of equipment from drums or containers., Maintenance (of larger plant items) and machine set up	PROC8b, CS111, CS14, CS45, CS77
CS 7	With Local Exhaust Ventilation, Maintenance of small items	PROC9,, CS18
CS 8	Without Local Exhaust Ventilation, Rolling, Brushing, With Local Exhaust Ventilation	PROC10,,
CS 9	Without Local Exhaust Ventilation, Spraying, With Local Exhaust Ventilation	PROC7,,
CS 10	Treatment by dipping and pouring	PROC13
CS 11	Out-door use, Operation and lubrication of high energy open equipment, In-door use, Operation of total loss equipment and systems	PROC17,, CS17,, CS21
CS 12	Operation and lubrication of high energy open equipment	PROC18, CS17
CS 13	Engine lubricant service	PROC20, CS78

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2.2. Conditions of use affecting exposure

2.2.1. Control of environmental exposure: Wide dispersive indoor use of processing aids in open systems (ERC8a) / Wide dispersive outdoor use of processing aids in open systems (ERC8d) / Wide dispersive indoor use of substances in closed systems (ERC9a) / Wide dispersive outdoor use of substances in closed systems (ERC9b)

Product (article) characteristics	
Covers the percentage of the substance in the product up to 100 % (unless stated differently).	
Physical form of product	: Liquid, vapour pressure < 0.5 kPa at Standard Temperature and Pressure
Amount used (or contained in articles), frequency and duration of use/exposure	
Not applicable	
Technical and organisational conditions and measures	
Bund storage facilities to prevent soil and water pollution in the event of spillage.	
Conditions and measures related to sewage treatment plant	
STP type	: No specific measures identified.
Conditions and measures related to treatment of waste (including article waste)	
Waste treatment	: External recovery and recycling of waste should comply with applicable local and/or national regulations.
Other conditions affecting environmental exposure	
Local freshwater dilution factor	: 10
Local marine water dilution factor	: 100
No toxicity at the limit of solubility	

2.2.2. Control of worker exposure: Use in closed process, no likelihood of exposure (PROC1) / no sampling (CS57) / General exposures (closed systems) (CS15)

Product (article) characteristics	
Covers the percentage of the substance in the product up to 100 % (unless stated differently).	
Physical form of product	: Liquid, vapour pressure < 0.5 kPa at Standard Temperature and Pressure
Amount used (or contained in articles), frequency and duration of use/exposure	

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Use frequency	: Covers daily exposures up to 8 hours (unless stated differently).
Not applicable	
Technical and organisational conditions and measures	
Handle substance within a closed system.	
Clear spills immediately.	
Avoid splashing. Clean equipment and the work area every day.	
Conditions and measures related to personal protection, hygiene and health evaluation	
Wear chemically resistant gloves (tested to EN374) in combination with specific activity training. When prolonged exposure is expected:	
Other conditions affecting workers exposure	
Assumes a good basic standard of occupational hygiene is implemented	
Assumes use at not more than 20°C above ambient temperature.	
Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply	
Available hazard data do not enable the derivation of a DNEL for dermal irritant effects. A quantitative risk assessment is not required for human health.	

2.2.3. Control of worker exposure: Use in closed batch process (synthesis or formulation) (PROC3) / with sample collection (CS56) / General exposures (closed systems) (CS15)

Product (article) characteristics	
Covers the percentage of the substance in the product up to 100 % (unless stated differently).	
Physical form of product	: Liquid, vapour pressure < 0.5 kPa at Standard Temperature and Pressure
Amount used (or contained in articles), frequency and duration of use/exposure	
Use frequency	: Covers daily exposures up to 8 hours (unless stated differently).
Not applicable	
Technical and organisational conditions and measures	
Ensure samples are obtained under containment or extract ventilation. Handle substance within a closed system.	
Clear spills immediately.	

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Avoid splashing. Clean equipment and the work area every day.
Conditions and measures related to personal protection, hygiene and health evaluation
Wear chemically resistant gloves (tested to EN374) in combination with specific activity training. When prolonged exposure is expected:
Other conditions affecting workers exposure
Assumes a good basic standard of occupational hygiene is implemented
Assumes use at not more than 20°C above ambient temperature.
Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply
Available hazard data do not enable the derivation of a DNEL for dermal irritant effects. A quantitative risk assessment is not required for human health.

2.2.4. Control of worker exposure: Use in batch and other process (synthesis) where opportunity for exposure arises (PROC4) / General exposures (open systems) (CS16) / With potential for aerosol generation (CS138)

Product (article) characteristics
Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical form of product : Liquid, vapour pressure < 0.5 kPa at Standard Temperature and Pressure
Amount used (or contained in articles), frequency and duration of use/exposure
Use frequency : Covers daily exposures up to 8 hours (unless stated differently).
Not applicable
Technical and organisational conditions and measures
Ensure samples are obtained under containment or extract ventilation. Transfer via enclosed lines.
Clear spills immediately.
Avoid splashing. Clean equipment and the work area every day.
Conditions and measures related to personal protection, hygiene and health evaluation
Protective gloves complying with EN 374.
Other conditions affecting workers exposure

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Assumes a good basic standard of occupational hygiene is implemented
Assumes use at not more than 20°C above ambient temperature.
Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply
Retain drain downs in sealed storage pending disposal or for subsequent recycle. Available hazard data do not enable the derivation of a DNEL for dermal irritant effects. A quantitative risk assessment is not required for human health.

2.2.5. Control of worker exposure: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities (PROC8a) / Elevated temperature (CS111) / Bulk transfers (CS14) / Filling/ preparation of equipment from drums or containers. (CS45) / Maintenance (of larger plant items) and machine set up (CS77)

Product (article) characteristics
Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical form of product : Liquid, vapour pressure < 0.5 kPa at Standard Temperature and Pressure
Amount used (or contained in articles), frequency and duration of use/exposure
Use frequency : Covers daily exposures up to 8 hours (unless stated differently).
Not applicable
Technical and organisational conditions and measures
Clear transfer lines prior to de-coupling. Provide extract ventilation to material transfer points and other openings. Transfer via enclosed lines.
Use drum pumps.
Clear spills immediately.
Avoid splashing. Clean equipment and the work area every day.
Conditions and measures related to personal protection, hygiene and health evaluation
Wear suitable coveralls to prevent exposure to the skin.
Other conditions affecting workers exposure
Assumes a good basic standard of occupational hygiene is implemented
Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply
Available hazard data do not enable the derivation of a DNEL for dermal irritant effects.

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A quantitative risk assessment is not required for human health.

2.2.6. Control of worker exposure: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities (PROC8b) / Elevated temperature (CS111) / Bulk transfers (CS14) / Filling/ preparation of equipment from drums or containers. (CS45) / Maintenance (of larger plant items) and machine set up (CS77)

Product (article) characteristics	
Covers the percentage of the substance in the product up to 100 % (unless stated differently).	
Physical form of product	: Liquid, vapour pressure < 0.5 kPa at Standard Temperature and Pressure
Amount used (or contained in articles), frequency and duration of use/exposure	
Use frequency	: Covers daily exposures up to 8 hours (unless stated differently).
Not applicable	
Technical and organisational conditions and measures	
Clear transfer lines prior to de-coupling. Provide extract ventilation to material transfer points and other openings. Transfer via enclosed lines.	
Use drum pumps.	
Clear spills immediately.	
Avoid splashing. Clean equipment and the work area every day.	
Conditions and measures related to personal protection, hygiene and health evaluation	
Wear suitable coveralls to prevent exposure to the skin.	
Other conditions affecting workers exposure	
Assumes a good basic standard of occupational hygiene is implemented	
Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply	
Available hazard data do not enable the derivation of a DNEL for dermal irritant effects. A quantitative risk assessment is not required for human health.	

2.2.7. Control of worker exposure: Transfer of substance or preparation into small containers (dedicated filling line, including weighing) (PROC9) / With Local Exhaust Ventilation () / Maintenance of small items (CS18)

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Product (article) characteristics	
Covers the percentage of the substance in the product up to 100 % (unless stated differently).	
Physical form of product	: Liquid, vapour pressure < 0.5 kPa at Standard Temperature and Pressure
Amount used (or contained in articles), frequency and duration of use/exposure	
Use frequency	: Covers daily exposures up to 8 hours (unless stated differently).
Not applicable	
Technical and organisational conditions and measures	
Provide sufficient air exchange and/or exhaust in work rooms.	
Clear spills immediately.	
Avoid splashing. Clean equipment and the work area every day.	
Other conditions affecting workers exposure	
Assumes a good basic standard of occupational hygiene is implemented	
Assumes use at not more than 20°C above ambient temperature.	
Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply	
Retain drain downs in sealed storage pending disposal or for subsequent recycle. Available hazard data do not enable the derivation of a DNEL for dermal irritant effects. A quantitative risk assessment is not required for human health.	

2.2.8. Control of worker exposure: Roller application or brushing (PROC10) / Without Local Exhaust Ventilation () / With Local Exhaust Ventilation ()

Product (article) characteristics	
Covers the percentage of the substance in the product up to 100 % (unless stated differently).	
Physical form of product	: Liquid, vapour pressure < 0.5 kPa at Standard Temperature and Pressure
Amount used (or contained in articles), frequency and duration of use/exposure	
Use frequency	: Covers daily exposures up to 8 hours (unless stated differently).
Not applicable	
Technical and organisational conditions and measures	

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Provide extract ventilation to points where emissions occur.
Clear spills immediately.
Avoid splashing. Clean equipment and the work area every day.
Conditions and measures related to personal protection, hygiene and health evaluation
Wear a respirator conforming to EN140 with Type A filter or better. In case of inadequate ventilation wear respiratory protection.
Wear suitable gloves tested to EN374. Wear suitable coveralls to prevent exposure to the skin.
Other conditions affecting workers exposure
Assumes a good basic standard of occupational hygiene is implemented
Assumes use at not more than 20°C above ambient temperature.
Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply
Available hazard data do not enable the derivation of a DNEL for dermal irritant effects. A quantitative risk assessment is not required for human health.

2.2.9. Control of worker exposure: Industrial spraying (PROC7) / Without Local Exhaust Ventilation () / With Local Exhaust Ventilation ()

Product (article) characteristics	
Covers the percentage of the substance in the product up to 100 % (unless stated differently).	
Physical form of product	: Liquid, vapour pressure < 0.5 kPa at Standard Temperature and Pressure
Amount used (or contained in articles), frequency and duration of use/exposure	
Use frequency	: Covers daily exposures up to 8 hours (unless stated differently).
Not applicable	
Technical and organisational conditions and measures	
Carry out in a vented booth or extracted enclosure. Provide a good standard of controlled ventilation (10 to 15 air changes per hour).	
Clear spills immediately.	
Avoid splashing. Clean equipment and the work area every day.	
Conditions and measures related to personal protection, hygiene and health evaluation	

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Change filter cartridge on respirator daily. When spraying without ventilation: Wear a respirator conforming to EN140 with Type A filter or better.
Wear suitable gloves tested to EN374.
Other conditions affecting workers exposure
Assumes a good basic standard of occupational hygiene is implemented
Assumes use at not more than 20°C above ambient temperature.
Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply
Retain drain downs in sealed storage pending disposal or for subsequent recycle. Available hazard data do not enable the derivation of a DNEL for dermal irritant effects. A quantitative risk assessment is not required for human health.

2.2.10. Control of worker exposure: Treatment of articles by dipping and pouring (PROC13)

Product (article) characteristics	
Covers the percentage of the substance in the product up to 100 % (unless stated differently).	
Physical form of product	: Liquid, vapour pressure < 0.5 kPa at Standard Temperature and Pressure
Amount used (or contained in articles), frequency and duration of use/exposure	
Use frequency	: Covers daily exposures up to 8 hours (unless stated differently).
Not applicable	
Technical and organisational conditions and measures	
Use ventilation to extract vapours from freshly coated articles/objects.	
Clear spills immediately.	
Avoid splashing. Clean equipment and the work area every day.	
Conditions and measures related to personal protection, hygiene and health evaluation	
Wear suitable gloves tested to EN374. Wear suitable coveralls to prevent exposure to the skin.	
Other conditions affecting workers exposure	
Assumes a good basic standard of occupational hygiene is implemented	
Assumes use at not more than 20°C above ambient temperature.	

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Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Available hazard data do not enable the derivation of a DNEL for dermal irritant effects.
A quantitative risk assessment is not required for human health.

2.2.11. Control of worker exposure: Lubrication at high energy conditions and in partly open process (PROC17) / Out-door use () / Operation and lubrication of high energy open equipment (CS17) / In-door use () / Operation of total loss equipment and systems (CS21)

Product (article) characteristics

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

Physical form of product : Liquid, vapour pressure < 0.5 kPa at Standard Temperature and Pressure

Amount used (or contained in articles), frequency and duration of use/exposure

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

Not applicable

Technical and organisational conditions and measures

Restrict area of openings to equipment.

Indoor use

Provide extraction ventilation at points where emissions occur.

Ensure operation is undertaken outdoors.

Outdoor use

Clear spills immediately.

Avoid splashing.

Clean equipment and the work area every day.

Other conditions affecting workers exposure

Indoor or outdoor use : Indoor

Assumes a good basic standard of occupational hygiene is implemented

Assumes use at not more than 20°C above ambient temperature.

Operation and lubrication of high energy open equipment

Operation of total loss equipment and systems

Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Available hazard data do not enable the derivation of a DNEL for dermal irritant effects.
A quantitative risk assessment is not required for human health.

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2.2.12. Control of worker exposure: Greasing at high energy conditions (PROC18) / Operation and lubrication of high energy open equipment (CS17)

Product (article) characteristics	
Covers the percentage of the substance in the product up to 100 % (unless stated differently).	
Physical form of product	: Liquid, vapour pressure < 0.5 kPa at Standard Temperature and Pressure
Amount used (or contained in articles), frequency and duration of use/exposure	
Use frequency	: Covers daily exposures up to 8 hours (unless stated differently).
Not applicable	
Technical and organisational conditions and measures	
Provide extraction ventilation at points where emissions occur. Restrict area of openings to equipment.	
Clear spills immediately.	
Avoid splashing. Clean equipment and the work area every day.	
Other conditions affecting workers exposure	
Assumes a good basic standard of occupational hygiene is implemented	
Assumes use at not more than 20°C above ambient temperature.	
Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply	
Available hazard data do not enable the derivation of a DNEL for dermal irritant effects. A quantitative risk assessment is not required for human health.	

2.2.13. Control of worker exposure: Heat and pressure transfer fluids in dispersive, professional use but closed systems (PROC20) / Engine lubricant service (CS78)

Product (article) characteristics	
Covers the percentage of the substance in the product up to 100 % (unless stated differently).	
Physical form of product	: Liquid, vapour pressure < 0.5 kPa at Standard Temperature and Pressure
Amount used (or contained in articles), frequency and duration of use/exposure	
Use frequency	: Covers daily exposures up to 8 hours (unless stated differently).

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Not applicable
Technical and organisational conditions and measures
Handle substance within a closed system.
Clear spills immediately.
Avoid splashing. Clean equipment and the work area every day.
Conditions and measures related to personal protection, hygiene and health evaluation
Wear chemically resistant gloves (tested to EN374) in combination with specific activity training. When prolonged exposure is expected:
Other conditions affecting workers exposure
Assumes a good basic standard of occupational hygiene is implemented
Assumes use at not more than 20°C above ambient temperature.
Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply
Available hazard data do not enable the derivation of a DNEL for dermal irritant effects. A quantitative risk assessment is not required for human health.

2.3. Exposure estimation and reference to its source

Release estimation method:

2.4. Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Fulfilling the above conditions the downstream user is deemed to work safely inside the boundaries set by this exposure scenario.

Other conditions should only be considered if the downstream user implements or recommends an exposure scenario which includes as a minimum the conditions described in this exposure scenario.