SAFETY DATA SHEET

Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II, as amended by Commission Regulation (EU) 2020/878

NEVASTANE XMF 2

SDS # : 081226

previous revision date : 2025/02/06

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

1.1 Product identifier

Product name : NEVASTANE XMF 2

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

Identified uses
Use of lubricants and greases in open systems - Professional Extreme pressure Grease for incidental food contact Lubricating grease Formulation additives, lubricants and greases - Industrial General use of lubricants and greases in vehicles or machinery - Industrial General use of lubricants and greases in vehicles or machinery - Professional Use of lubricants and greases in open systems - Industrial

1.3 Details of the supplier of the safety data sheet

TotalEnergies Lubrifiants
562 Avenue du Parc de L'ile
92029 Nanterre Cedex FRANCE
Tél: +33 (0)1 41 35 40 00
Fax: +33 (0)1 41 35 84 71

rm.msds-lubs@totalenergies.com

TotalEnergies Marketing Deutschland GmbH
Jean-Monnet-Straße 2
10557 BERLIN
DEUTSCHLAND
Tel: +49 (0)30 2027 60

msds@totalenergies.com

Contact

HSE : + 49 (0) 30/ 2027-9429

1.4 Emergency telephone number

National advisory body/Poison Center

Telephone number : Giftnotruf Berlin, Tel.+49 (0)30 19240 (24 h erreichbar, Beratung in Deutsch und Englisch

Supplier

Telephone number : TOTAL Emergency number: +49 89 220 61012

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : Mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Aquatic Chronic 3, H412

The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.

See Section 16 for the full text of the H statements declared above.

For more details about adverse physical, human health and environmental effects, see sections 9 to 12.

2.2 Label elements

Signal word : No signal word.

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

Precautionary statements

Prevention : P273 - Avoid release to the environment.

Response : Not applicable.

Storage : Not applicable.

Disposal : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements : Not applicable.

Labelling element REACh Annex XVII : Not applicable.

2.3 Other hazards

Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII : This mixture contains substances that are assessed to be a PBT or a vPvB, refer to Section 3.2.
This product does not contain any substance present at a concentration equal to or greater than 0.1% by mass, included in the list drawn up in accordance with article 59, paragraph 1 of the REACh Regulation, due to its endocrine disrupting properties, or a substance known to have endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation 2018/605.

Other hazards which do not result in classification : None known.

SECTION 3: Composition/information on ingredients

3.2 Mixtures : Mixture

Product/substance	Identifiers	% (w/w)	Classification	Specific Conc. Limits, M-factors and ATEs	Type
White mineral oil (petroleum)	REACH #: 01-2119487078-27 EC: 232-455-8 CAS: 8042-47-5	≥50 - ≤75	Not classified.	-	[2]
2,6-di-tert-butyl-p-cresol	REACH #: 01-2119555270-46 01-2119565113-46 EC: 204-881-4 CAS: 128-37-0	≤0.49	Aquatic Acute 1, H400 Aquatic Chronic 1, H410	M [Acute] = 1 M [Chronic] = 1	[1] [2]

Amines, C12-14-alkyl, isooctyl phosphates	REACH #: 01-2120286234-55 EC: 269-119-5 CAS: 68187-67-7	<1	Acute Tox. 4, H302 Acute Tox. 4, H312 Skin Corr. 1C, H314 Eye Dam. 1, H318 Aquatic Acute 1, H400 Aquatic Chronic 2, H411 EUH071	ATE [Oral] = 500 mg/kg ATE [Dermal] = 2000 mg/kg M [Acute] = 1	[1]
reaction mass of: triphenylthiophosphate and tertiary butylated phenyl derivatives	REACH #: 01-2119480426-35 EC: 421-820-9 CAS: 192268-65-8 Index: 607-501-00-9	≤0.3	Repr. 2, H361d Aquatic Chronic 4, H413	-	[1] [3]
O,O,O-triphenyl phosphorothioate	REACH #: 01-2119979545-21 EC: 209-909-9 CAS: 597-82-0	≤0.2	Aquatic Chronic 1, H410 **See Section 16 for the full text of the H statements declared above.**	M [Chronic] = 10	[1] [2] [3]

Additional information : Mineral oil of petroleum origin. Product containing mineral oil with less than 3% DMSO extract as measured by IP 346 The product is made from synthetic base oils

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs, vPvBs or Substances of equivalent concern, or have been assigned a workplace exposure limit and hence require reporting in this section.

Type

[1] Substance classified with a health or environmental hazard
[2] Substance with a workplace exposure limit
[3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII

Occupational exposure limits, if available, are listed in Section 8.

SECTION 4: First aid measures

4.1 Description of first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing.

Skin contact : Wash skin thoroughly with soap and water or use recognized skin cleanser. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

Ingestion : Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training.

4.2 Most important symptoms and effects, both acute and delayed

Eye contact : No specific data.

Inhalation : No specific data.

Skin contact	:	irritation dryness cracking
Ingestion	:	No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician	:	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific treatments	:	No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media	:	Use dry chemical, CO_2, water spray (fog) or foam.
Unsuitable extinguishing media	:	Do not use water jet.

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture	:	This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
Hazardous combustion products	:	carbon monoxide carbon dioxide nitrogen oxides phosphorus oxides

5.3 Advice for firefighters

Special protective actions for fire-fighters	:	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
Special protective equipment for fire-fighters	:	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	:	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.
For emergency responders	:	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
6.2 Environmental precautions	:	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material.

6.3 Methods and materials for containment and cleaning up

Small spill	:	Move containers from spill area. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.
Large spill	:	Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.
6.4 Reference to other sections	:	See Section 1 for emergency contact information. See Section 8 for information on appropriate personal protective equipment. See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Protective measures	:	Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid release to the environment. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container. See Section 10 for incompatible materials before handling or use.
Advice on general occupational hygiene	:	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

7.3 Specific end use(s)

Recommendations	:	See exposure scenarios
Industrial sector specific solutions	:	Not available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

Product/substance	Exposure limit values
White mineral oil (petroleum)	**DFG MAK-values list (Germany, 7/2023)** Develop C. PEAK 15 minutes: 20 mg/m³ 4 times per shift [Interval: 1 hour]. Form: respirable fraction. TWA 8 hours: 5 mg/m³. Form: respirable fraction. **TRGS 900 OEL (Germany, 6/2024)** PEAK 15 minutes: 20 mg/m³. Form: alveolar fraction. TWA 8 hours: 5 mg/m³. Form: alveolar fraction.
2,6-di-tert-butyl-p-cresol	**DFG MAK-values list (Germany, 7/2023)** Carc 4, Develop C. TWA 8 hours: 10 mg/m³. Form: inhalable fraction. PEAK 15 minutes: 40 mg/m³ 4 times per shift [Interval: 1 hour]. Form: inhalable fraction.

O,O,O-triphenyl phosphorothioate	**TRGS 900 OEL (Germany, 6/2024)** TWA 8 hours: 10 mg/m³. Form: inhalable fraction. PEAK 15 minutes: 40 mg/m³. Form: inhalable fraction. **DFG MAK-values list (Germany, 7/2023)** Develop D. PEAK 15 minutes: 40 mg/m³ 4 times per shift [Interval: 1 hour]. Form: inhalable fraction. TWA 8 hours: 20 mg/m³. Form: inhalable fraction. **TRGS 900 OEL (Germany, 6/2024)** PEAK 15 minutes: 40 mg/m³. Form: inhalable fraction. TWA 8 hours: 20 mg/m³. Form: inhalable fraction.

Biological Limit Values (BLV)

Product/substance	Exposure indices
2,6-di-tert-butyl-p-cresol	**DFG BEI-values list (Germany, 7/2023)** BEI: 7 µg/l, Butylated hydroxytoluene acid (after hydrolysis) [in urine]. Sampling time: end of exposure or end of shift.

Recommended monitoring procedures : Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Advisory OEL : Mineral oil mist: USA: OSHA (PEL) TWA 5 mg/m3, NIOSH (REL) TWA 5 mg/m3, STEL 10 mg/m3, ACGIH (TLV) TWA 5 mg/m3 (highly refined)

DNELs/DMELs

Product/substance	Result
2,6-di-tert-butyl-p-cresol	**DNEL - General population - Long term - Oral** 0.25 mg/kg bw/day Effects: Systemic **DNEL - General population - Long term - Dermal** 0.25 mg/kg bw/day Effects: Systemic **DNEL - General population - Long term - Inhalation** 0.435 mg/m³ Effects: Systemic **DNEL - Workers - Long term - Dermal** 0.5 mg/kg bw/day Effects: Systemic **DNEL - Workers - Long term - Inhalation** 1.76 mg/m³ Effects: Systemic
reaction mass of: triphenylthiophosphate and tertiary butylated phenyl derivatives	**DNEL - General population - Long term - Oral** 0.08 mg/kg bw/day Effects: Systemic **DNEL - General population - Long term - Dermal** 0.08 mg/kg bw/day Effects: Systemic

	DNEL - Workers - Long term - Dermal 0.17 mg/kg bw/day Effects: Systemic **DNEL - General population - Long term - Inhalation** 0.3 mg/m³ Effects: Systemic **DNEL - Workers - Long term - Inhalation** 1.2 mg/m³ Effects: Systemic
O,O,O-triphenyl phosphorothioate	**DNEL - General population - Long term - Oral** 0.2 mg/kg bw/day Effects: Systemic **DNEL - General population - Long term - Dermal** 0.2 mg/kg bw/day Effects: Systemic **DNEL - General population - Long term - Inhalation** 0.34 mg/m³ Effects: Systemic **DNEL - Workers - Long term - Dermal** 0.4 mg/kg bw/day Effects: Systemic **DNEL - Workers - Long term - Inhalation** 1.39 mg/m³ Effects: Systemic

PNECs

Product/substance	Result
2,6-di-tert-butyl-p-cresol	**Fresh water** 199 ng/l **Marine water** 19.9 ng/l **Fresh water sediment** 458.19 µg/kg dwt **Soil** 53.9 µg/kg dwt **Sewage Treatment Plant** 17 µg/l **Marine water sediment** 45.82 µg/kg dwt **Secondary Poisoning** 16.67 mg/kg
reaction mass of: triphenylthiophosphate and tertiary butylated phenyl derivatives	**Fresh water** 0.00044 mg/l **Marine water** 0.000044 mg/l

	Fresh water sediment 8.99 to 2250 mg/kg dwt **Marine water sediment** 0.899 to 225 mg/kg dwt **Soil** 1.79 mg/kg dwt **Sewage Treatment Plant** 32 mg/l
O,O,O-triphenyl phosphorothioate	**Soil - Assessment Factors** 2.46 mg/kg dwt **Fresh water - Assessment Factors** 0.17 µg/l **Marine water - Assessment Factors** 0.017 µg/l **Fresh water sediment - Equilibrium Partitioning** 3.47 mg/kg dwt **Marine water sediment - Equilibrium Partitioning** 0.347 mg/kg dwt

8.2 Exposure controls

Appropriate engineering controls : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : In case of contact through splashing: safety glasses with side-shields, EN 166.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
Hydrocarbon-proof gloves
nitrile rubber
Fluorinated rubber
Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time.
In case of prolonged contact with the product, it is recommended to wear gloves complying with ISO 21420 and EN 374 standards, protecting at least for 480 minutes and having a thickness of 0,38 mm at least. These values are indicative only. The level of protection is provided by the material of the glove, its technical characteristics, its resistance to the chemicals to be handled, the appropriateness

of its use and its replacement frequency

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Ensure adequate ventilation and check that a safe, breathable atmosphere is present before entry into confined spaces. In case of inadequate ventilation wear respiratory protection: Type A/P1. Warning ! filters have a limited use duration. The use of breathing apparatus must comply strictly with the manufacturer's instructions and the regulations governing their choices and uses.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

The conditions of measurement of all properties are at standard temperature (20°C / 68°F) and pressure (1013 hPa) unless otherwise indicated

9.1 Information on basic physical and chemical properties

Appearance

Physical state : Solid.

Color : Beige.

Odor : Characteristic.

pH : Not applicable. Product is non-soluble (in water).

Melting point/freezing point : >245°C

Initial boiling point and boiling range : Not applicable.

Flash point : Open cup: Not applicable.

Flammability : Yes.

Lower and upper explosion limit : Not applicable.

Vapor pressure : Not applicable.

Vapor density : Not applicable.

Relative density : 0.9

Density : 0.9 g/cm³ [20°C]

Solubility(ies) :

Media	Result
water	Not soluble

Miscible with water : No.

Partition coefficient: n-octanol/water : >3.5

Auto-ignition temperature : Not applicable.

Decomposition temperature : >245°C

Viscosity : Dynamic (room temperature): Not available.
Kinematic (room temperature): Not available.
Kinematic (40°C): Not applicable.

Particle characteristics

Median particle size : Not available.

9.2 Other information

No other relevant physical and chemical parameters for the safe use of the product

SECTION 10: Stability and reactivity

10.1 Reactivity : No specific test data related to reactivity available for this product or its ingredients.

10.2 Chemical stability : Stable under recommended storage and handling conditions (see Section 7).

10.3 Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid : No specific data.

10.5 Incompatible materials : Strong oxidizing agents

10.6 Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

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

Acute toxicity

Product/substance	Result
2,6-di-tert-butyl-p-cresol	**Rat - Oral - LD50** >6000 mg/kg OECD 401 **Rat - Dermal - LD50** >2000 mg/kg OECD 402
Amines, C12-14-alkyl, isooctyl phosphates	**Rabbit - Male, Female - Dermal - LD50** 2000 mg/kg OECD 402
reaction mass of: triphenylthiophosphate and tertiary butylated phenyl derivatives	**Rat - Male, Female - Oral - LD50** >2000 mg/kg EU Acute Toxicity (Oral) **Rat - Male, Female - Dermal - LD50** >2000 mg/kg OECD 402
O,O,O-triphenyl phosphorothioate	**Rat - Oral - LD50** >10000 mg/kg **Rat - Dermal - LD50** >2000 mg/kg OECD

Acute toxicity estimates

Product/substance	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
Amines, C12-14-alkyl, isooctyl phosphates	500	2000	N/A	N/A	N/A

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

Skin corrosion/irritation

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

Serious eye damage/eye irritation

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

Respiratory corrosion/irritation

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

Respiratory or skin sensitization

Skin

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

Respiratory

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

Germ cell mutagenicity

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

Carcinogenicity

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

Reproductive toxicity

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

Specific target organ toxicity (single exposure)

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

Specific target organ toxicity (repeated exposure)

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

Aspiration hazard

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

Information on the likely routes of exposure

Not available.

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : Defatting to the skin. May cause skin dryness and irritation.

Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : No specific data.

Inhalation : No specific data.

Skin contact : irritation
dryness
cracking

Ingestion : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Potential chronic health effects

Product/substance	Result
reaction mass of: triphenylthiophosphate and tertiary butylated phenyl derivatives	**Sub-chronic - Rat - Male, Female - Oral - NOAEL** 50 mg/kg [7 days per week] [13 weeks]

General : No known significant effects or critical hazards.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Reproductive toxicity : No known significant effects or critical hazards.

11.2 Information on other hazards

11.2.1 Endocrine disrupting properties

The product does not meet the criteria to be considered as having endocrine disrupting properties according to the criteria set out in either Regulation (EC) No. 1907/2006 or Regulation (EC) No 1272/2008.

11.2.2 Other information

Not available.

SECTION 12: Ecological information

Harmful to aquatic life with long lasting effects.

12.1 Toxicity

Product/substance	Result
2,6-di-tert-butyl-p-cresol	**Acute - LC50** Fish - *Oryzias latipes* OECD 203 1.1 mg/l [96 hours] **Acute - EC50** Crustaceans - *Daphnia magna* OECD 202 0.48 mg/l [48 hours] Effect: Mobility **Chronic - NOEC** Fish - *Danio rerio* OECD 210 0.053 mg/l [30 days] Effect: Mortality **Chronic - NOEC** Daphnia - *Daphnia magna* OECD 211 0.07 mg/l [21 days] Effect: Reproduction **Chronic - EC10** Algae - *Desmodesmus subspicatus* OECD 201

	0.4 mg/l [72 hours] Effect: (growth rate) **Chronic - NOEC - Fresh water** Daphnia - Water flea - *Daphnia magna* OECD 0.069 mg/l [21 days] Effect: Reproduction **Acute - LC50 - Fresh water** Fish - Medaka, high-eyes - *Oryzias latipes* OECD 1.1 mg/l [96 hours] Effect: Mortality
O,O,O-triphenyl phosphorothioate	**Chronic - NOEC** Fish - *Oncorhynchus mykiss* OECD 210 0.00176 mg/l [97 days] **Acute - EC50** Daphnia - *Daphnia magna* OECD 202 >100 mg/l [48 hours] **Chronic - NOEC** Daphnia - *Oncorhynchus mykiss* OECD 211 ≥0.00724 mg/l [21 days]

Based on available data, the classification criteria are met.

12.2 Persistence and degradability

Product/substance	Result
2,6-di-tert-butyl-p-cresol	OECD 301C 4.5% [28 days] - Not readily
Amines, C12-14-alkyl, isooctyl phosphates	EU [C4] 35% [28 days]

Product/substance	Aquatic half-life	Photolysis	Biodegradability
2,6-di-tert-butyl-p-cresol	-	-	Not readily
Amines, C12-14-alkyl, isooctyl phosphates	-	-	Not readily
reaction mass of: triphenylthiophosphate and tertiary butylated phenyl derivatives	-	-	Inherent
O,O,O-triphenyl phosphorothioate	-	-	Not readily

12.3 Bioaccumulative potential

Product/substance	$LogK_{ow}$	BCF	Potential
NEVASTANE XMF 2	>3.5	-	Low
2,6-di-tert-butyl-p-cresol	5.1	1277	High
Amines, C12-14-alkyl, isooctyl phosphates	1.87	-	Low
reaction mass of: triphenylthiophosphate and tertiary butylated phenyl derivatives	4.8 to 8.8	842 to 2194	High
O,O,O-triphenyl phosphorothioate	5	842 to 2194	High

12.4 Mobility in soil

Soil/Water partition coefficient

Product/substance	logKoc	Koc
2,6-di-tert-butyl-p-cresol	3.7	4489.84
O,O,O-triphenyl phosphorothioate	4.7	49128.4

Results of PMT and vPvM assessment

Product/substance	PMT	P	M	T	vPvM	vP	vM
2,6-di-tert-butyl-p-cresol	No	N/A	No	No	No	N/A	No
Amines, C12-14-alkyl, isooctyl phosphates	No	N/A	N/A	No	N/A	N/A	N/A
reaction mass of: triphenylthiophosphate and tertiary butylated phenyl derivatives	N/A	Yes	N/A	Yes	N/A	N/A	N/A
O,O,O-triphenyl phosphorothioate	No	Yes	No	Yes	No	N/A	No

Mobility : Not available.

Mobility in soil : Given its physical and chemical characteristics, the product has no soil mobility. The product is insoluble and floats on water. Loss by evaporation is limited

12.5 Results of PBT and vPvB assessment

Regulation (EC) No. 1272/2008 [CLP]

Product/substance	PBT	P	B	T	vPvB	vP	vB
2,6-di-tert-butyl-p-cresol	No	N/A	No	No	No	N/A	No
Amines, C12-14-alkyl, isooctyl phosphates	No	N/A	N/A	No	N/A	N/A	N/A
reaction mass of: triphenylthiophosphate and tertiary butylated phenyl derivatives	Yes	Yes	Yes	Yes	No	N/A	No
O,O,O-triphenyl phosphorothioate	Yes	Yes	Yes	Yes	No	N/A	No

Conclusion/Summary Regulation (EC) No. 1272/2008 [CLP] : The product does not meet the criteria to be considered as a PBT or vPvB.

12.6 Endocrine disrupting properties

The product does not meet the criteria to be considered as having endocrine disrupting properties according to the criteria set out in either Regulation (EC) No. 1907/2006 or Regulation (EC) No 1272/2008.

12.7 Other adverse effects

No known significant effects or critical hazards.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Methods of disposal : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Should not be released into the environment.

Hazardous waste : Yes.

According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user based on the application for which the product was used. The following Waste Codes are only suggestions: 12 01 12*

Packaging

Methods of disposal : The generation of waste should be avoided or minimized wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

Special precautions : This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

	ADR/RID	ADN	IMDG	ICAO/IATA
14.1 UN number or ID number	Not regulated.	9005	Not regulated.	Not regulated.
14.2 UN proper shipping name	-	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., MOLTEN (2,6-di-tert-butyl-p-cresol)	-	-
14.3 Transport hazard class(es)	-	9	-	-
14.4 Packing group	-	-	-	-
14.5 Environmental hazards	No.	No.	No.	No.

14.6 Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Additional information

ADN : The product is only regulated as a dangerous good when transported in tank vessels.

14.7 Maritime transport in bulk according to IMO instruments : Not available.

SECTION 15: Regulatory information

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

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorization

Annex XIV

None of the components are listed.

Substances of very high concern

Ingredient name	Intrinsic property	Status	Reference number	Date of revision
reaction mass of: triphenylthiophosphate and tertiary butylated phenyl derivatives	PBT	Candidate	-	6/27/2024
O,O,O-triphenyl phosphorothioate	-	Candidate	-	6/7/2024

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

Labeling : Not applicable.

Other EU regulations

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work
DIRECTIVE 2008/68/EC related on the inland transport of dangerous goods

Industrial emissions (integrated pollution prevention and control) - Air : Not listed

Industrial emissions (integrated pollution prevention and control) - Water : Not listed

Explosive precursors : Not applicable.

Ozone depleting substances (EU 2024/590)

Not listed.

Prior Informed Consent (PIC) (649/2012/EU)

Not listed.

Persistent Organic Pollutants

Not listed.

Seveso Directive

This product is not controlled under the Seveso Directive.

National regulations

Storage class (TRGS 510) : 11

Hazardous incident ordinance

This product is not controlled under the Germany Hazardous Incident Ordinance.

Hazard class for water : 2

Technical instruction on air quality control : Number 5.2.1: 13.72%
Number 5.2.5: 86.278000%
Number 5.2.5 - Class I: 83.253245%
Number 5.2.7.2: 0.002%

Employment law : Law on the protection of young workers
Regulation on the complementary implementation of the EC Directive on Maternity Protection (MuSchRiV - Maternity Protection Directive Regulation)

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

Australia inventory (AIIC)	: Not determined.
Canada inventory (DSL/NDSL)	: All components are listed or exempted.
China inventory (IECSC)	: All components are listed or exempted.
Europe inventory (EC)	: All components are listed or exempted.
Japan inventory	: **Japan inventory (CSCL)**: All components are listed or exempted. **Japan inventory (ISHL)**: All components are listed or exempted.
New Zealand Inventory of Chemicals (NZIoC)	: At least one component is not listed.
Philippines inventory (PICCS)	: Not determined.
Korea inventory (KECI)	: All components are listed or exempted.
Taiwan Chemical Substances Inventory (TCSI)	: All components are listed or exempted.
Thailand inventory	: Not determined.
Turkey inventory	: Not determined.
United States inventory (TSCA 8b)	: All components are listed or exempted.
Vietnam inventory	: Not determined.

The information stated in this section relates solely to the conformity of the chemical product with the countries Inventories. The information used to confirm the inventory status of this product may be based on additional data to the chemical composition shown in Section 3. Other regulations may apply for importation or marketing authorizations.

15.2 Chemical Safety Assessment : See exposure scenarios

SECTION 16: Other information

Indicates information that has changed from previously issued version.

Abbreviations and acronyms : ACGIH = American Conference of Governmental Industrial Hygienists
ADN = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway
ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE = Acute Toxicity Estimate
B = Bioaccumulative
BCF = Bioconcentration Factor
DNEL = Derived No Effect Level
DMEL = Derived Minimal Effect Level
DMSO = Dimethyl Sulfoxide
EC50 = Half maximal effective concentration
EL50 = median Effective Loading
EUH statement = CLP-specific Hazard statement
HSE = Health, Safety and Environment
IATA = International Air Transport Association
IC50 = Half maximal inhibitory concentration
IDHL = Immediately dangerous to life or health
IMDG = International Maritime Dangerous Goods
IMO = International Maritime Organization
LC50 = Median lethal concentration
LD50 = Median lethal dose
LL50 = median Lethal Loading
LogKow = logarithm of the octanol/water partition coefficient
M = Mobile
N/A = Not available
NIOSH = National Institute of Occupational Safety and Health
NOAEL = No Observed Adverse Effect Level
NOEC No Observed Effect Concentration
NOEL = No Observed Effect Level
NOELR = No observed Effect Loading Rate
OECD = Organisation for Economic Co-operation and Development
OEL = Occupational Exposure Limit
P = Persistent
PBT = Persistent, Bioaccumulative and Toxic
PNEC = Predicted No Effect Concentration
POP = Persistent Organic Pollutants
QSAR = Quantitative Structure–Activity Relationship
REL = Recommanded Exposure Limit
RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail
SGG = Segregation Group
STEL = Short Term Exposure Limit
T = Toxic
TLV = Threshold Limit Value
TWA = Time Weight Average
vB = Very Bioaccumulative
vM = Very Mobile
VOC = Volatile Organic Compound
vP = Very Persistent
vPvB = Very Persistent and Very Bioaccumulative
vPvM = Very Persistent and Very Mobile
UFI = Unique Formula Identifier
UVCB Substance of unknown or Variable composition, Complex reaction products or Biological material

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

SECTION 16: Other information

Classification	Justification
Aquatic Chronic 3, H412	Calculation method

Full text of abbreviated H statements

H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H361d	Suspected of damaging the unborn child.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
H413	May cause long lasting harmful effects to aquatic life.
EUH071	Corrosive to the respiratory tract.

Full text of classifications [CLP/GHS]

Acute Tox. 4	ACUTE TOXICITY - Category 4
Aquatic Acute 1	AQUATIC HAZARD (ACUTE) - Category 1
Aquatic Chronic 1	AQUATIC HAZARD (LONG-TERM) - Category 1
Aquatic Chronic 2	AQUATIC HAZARD (LONG-TERM) - Category 2
Aquatic Chronic 3	AQUATIC HAZARD (LONG-TERM) - Category 3
Aquatic Chronic 4	AQUATIC HAZARD (LONG-TERM) - Category 4
Eye Dam. 1	SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1
Repr. 2	TOXIC TO REPRODUCTION - Category 2
Skin Corr. 1C	SKIN CORROSION/IRRITATION - Category 1C

Additionnal details on the supplier of the product

Date of revision : 7/30/2025

Date of previous issue : 2/6/2025

Version : 2.03

Notice to reader

SECTION 16: Other information

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Annex to the extended Safety Data Sheet (eSDS)

Professional

Identification of the substance or mixture

Product definition	:	Mixture
Code	:	081226
Product name	:	NEVASTANE XMF 2

Section 1 - Title

Short title of the exposure scenario	:	Use of lubricants and greases in open systems - Professional
List of use descriptors	:	**Identified use name:** Use of lubricants and greases in open systems - Professional **Process Category:** PROC01, PROC02, PROC08a, PROC10, PROC11, PROC13 **Sector of end use:** SU22 **Subsequent service life relevant for that use:** No. **Environmental Release Category:** ERC08a, ERC08d
Processes and activities covered by the exposure scenario	:	Covers use of lubricants and greases in open systems, including application of lubricant to work pieces or equipment by dipping, brushing or spraying (without exposure to heat), e.g. mold releases, corrosion protection, slideways. Includes associated product storage, material transfers, sampling and maintenance activities.

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1:

ATIEL-ATC SPERC 8.Cp.v1

Amounts used	:	Volume manufactured/imported (tonnes/year) : 27.5 Fraction of EU tonnage used in region : 0.1 Fraction of regional tonnage used locally : 0.1
Frequency and duration of use	:	Emission days (days per year) : 365
Environment factors not influenced by risk management	:	Local freshwater dilution factor : 10 Local marine water dilution factor : 100
Other operational conditions of use affecting environmental exposure	:	Negligible wastewater emissions as process operates without water contact. Release fraction to air from process (after typical onsite RMMs consistent with EU Solvent Emissions Directive requirements) : 1 Release fraction to wastewater from process (after typical onsite RMMs and before (municipal) sewage treatment plant): 1 Release fraction to soil from process (after typical onsite RMMs): 1.00E-03
Technical conditions and measures at process level (source) to prevent release	:	Common practices vary across sites thus conservative process release estimates used.
Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil	:	Prevent discharge of undissolved substance to or recover from onsite wastewater.
Organizational measures to prevent/limit release from site	:	Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.
Conditions and measures related to municipal sewage treatment plant	:	Assumed domestic sewage treatment plant flow (m^3/d) : 2.00E+03

Conditions and measures related to external treatment of waste for disposal	:	External treatment and disposal of waste should comply with applicable local and/or national regulations.
Conditions and measures related to external recovery of waste	:	External recovery and recycling of waste should comply with applicable local and/or national regulations.

Contributing scenario controlling worker exposure for 2:

No exposure assessment presented for human health.

Section 3 - Exposure estimation and reference to its source

Website:	:	Not applicable.

Exposure estimation and reference to its source - Environment: 1:

Exposure assessment (environment):	:	Used ECETOC TRA model.
Exposure estimation and reference to its source	:	Not available.

Exposure estimation and reference to its source - Workers: 2:

Exposure assessment (human):	:	The risk Management Mesures/Operational Conditions that are identified in the Exposure Scenario are the outcome of a quantitative and qualitative assessment that covers this product.
Exposure estimation and reference to its source	:	Not available.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment	:	Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Further details on scaling and control technologies are provided in SPERC factsheet. If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required. For further information see www.atiel.org/reach/introduction.
Health	:	Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. For further information see www.atiel.org/reach/introduction.

Additional good practice advice beyond the REACH CSA

Environment	:	Not available.
Health	:	Not available.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mixture

Code : 081226

Product name : NEVASTANE XMF 2

Section 1 - Title

Short title of the exposure scenario : Formulation additives, lubricants and greases - Industrial

List of use descriptors : **Identified use name:** Formulation additives, lubricants and greases - Industrial
Process Category: PROC01, PROC02, PROC03, PROC04, PROC05, PROC08a, PROC08b, PROC09, PROC15
Sector of end use: SU03, SU10
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC02

Processes and activities covered by the exposure scenario : Industrial formulation of lubricant additives, lubricants and greases. Includes material transfers, mixing, large and small scale packing, sampling, maintenance.

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1:

ATIEL-ATC SPERC 2.Ai-I.v1

Amounts used : Volume manufactured/imported (tonnes/year) : 22

Fraction of EU tonnage used in region : 0.1
Fraction of regional tonnage used locally : 0.1

Frequency and duration of use : Emission days (days per year) : 300

Environment factors not influenced by risk management : Local freshwater dilution factor : 10
Local marine water dilution factor : 100

Other operational conditions of use affecting environmental exposure : Negligible wastewater emissions as process operates without water contact.

Release fraction to air from process (after typical onsite RMMs consistent with EU Solvent Emissions Directive requirements) : 5.00E-04
Release fraction to wastewater from process (after typical onsite RMMs and before (municipal) sewage treatment plant): 2.00E-3
Release fraction to soil from process (after typical onsite RMMs): 0

Technical conditions and measures at process level (source) to prevent release : Common practices vary across sites thus conservative process release estimates used.

Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil : Treat air emission to provide a typical removal efficiency of (%) : 70

Prevent discharge of undissolved substance to or recover from onsite wastewater. User sites are assumed to be provided with oil/water separators and for waste water to be discharged via public sewer system.

Organizational measures to prevent/limit release from site : Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.

Conditions and measures related to municipal sewage treatment plant : Assumed domestic sewage treatment plant flow (m^3/d) : 2.00E+03

Conditions and measures related to external treatment of waste for disposal	:	External treatment and disposal of waste should comply with applicable local and/or national regulations.
Conditions and measures related to external recovery of waste	:	External recovery and recycling of waste should comply with applicable local and/or national regulations.

Contributing scenario controlling worker exposure for 2:

No exposure assessment presented for human health.

Section 3 - Exposure estimation and reference to its source

Website:	:	Not applicable.

Exposure estimation and reference to its source - Environment: 1:

Exposure assessment (environment):	:	Used ECETOC TRA model.
Exposure estimation and reference to its source	:	Not available.

Exposure estimation and reference to its source - Workers: 2:

Exposure assessment (human):	:	The risk Management Mesures/Operational Conditions that are identified in the Exposure Scenario are the outcome of a quantitative and qualitative assessment that covers this product.
Exposure estimation and reference to its source	:	Not available.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment	:	Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Further details on scaling and control technologies are provided in SPERC factsheet. If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required. For further information see www.atiel.org/reach/introduction.
Health	:	Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. For further information see www.atiel.org/reach/introduction.

Additional good practice advice beyond the REACH CSA

Environment	:	Not available.
Health	:	Not available.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mixture

Code : 081226

Product name : NEVASTANE XMF 2

Section 1 - Title

Short title of the exposure scenario : General use of lubricants and greases in vehicles or machinery - Industrial

List of use descriptors : **Identified use name:** General use of lubricants and greases in vehicles or machinery - Industrial
Process Category: PROC01, PROC02, PROC08b, PROC09
Sector of end use: SU03
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC04, ERC07

Processes and activities covered by the exposure scenario : Covers general use of lubricants and greases in vehiculs or machinery in closed systems. Includes filling and draining of containers and operation of enclosed machinery (including engines) and associated maintenance and storage activities.

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1:

ATIEL-ATC SPERC 4.Bi.v1

Amounts used : Annual site tonnage (tonnes/year): 16.5

Frequency and duration of use : Emission days (days per year) : 300

Environment factors not influenced by risk management : Local freshwater dilution factor : 10
Local marine water dilution factor : 100

Other operational conditions of use affecting environmental exposure : Negligible wastewater emissions as process operates without water contact.

Release fraction to air from process (after typical onsite RMMs consistent with EU Solvent Emissions Directive requirements) : 1.00E-03
Release fraction to wastewater from process (after typical onsite RMMs and before (municipal) sewage treatment plant): 2.00E-03
Release fraction to soil from process (after typical onsite RMMs): 1.00E-02

Technical conditions and measures at process level (source) to prevent release : Common practices vary across sites thus conservative process release estimates used.

Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil : Prevent discharge of undissolved substance to or recover from onsite wastewater. User sites are assumed to be provided with oil/water separators and for waste water to be discharged via public sewer system.

Organizational measures to prevent/limit release from site : Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.

Conditions and measures related to municipal sewage treatment plant : Assumed domestic sewage treatment plant flow (m^3/d) : 2.00E+03

Conditions and measures related to external treatment of waste for disposal : External treatment and disposal of waste should comply with applicable local and/or national regulations.

Conditions and measures related to external recovery of waste	:	External recovery and recycling of waste should comply with applicable local and/or national regulations.

Contributing scenario controlling worker exposure for 2:

No exposure assessment presented for human health.

Section 3 - Exposure estimation and reference to its source

Website:	:	Not applicable.

Exposure estimation and reference to its source - Environment: 1:

Exposure assessment (environment):	:	Used ECETOC TRA model.
Exposure estimation and reference to its source	:	Not available.

Exposure estimation and reference to its source - Workers: 2:

Exposure assessment (human):	:	The risk Management Mesures/Operational Conditions that are identified in the Exposure Scenario are the outcome of a quantitative and qualitative assessment that covers this product.
Exposure estimation and reference to its source	:	Not available.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment	:	Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Further details on scaling and control technologies are provided in SPERC factsheet. If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required. For further information see www.atiel.org/reach/introduction.
Health	:	Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. For further information see www.atiel.org/reach/introduction.

Additional good practice advice beyond the REACH CSA

Environment	:	Not available.
Health	:	Not available.

Annex to the extended Safety Data Sheet (eSDS)

Professional

Identification of the substance or mixture

Product definition	:	Mixture
Code	:	081226
Product name	:	NEVASTANE XMF 2

Section 1 - Title

Short title of the exposure scenario	:	General use of lubricants and greases in vehicles or machinery - Professional
List of use descriptors	:	**Identified use name:** General use of lubricants and greases in vehicles or machinery - Professional **Process Category:** PROC01, PROC02, PROC08a, PROC08b, PROC20 **Sector of end use:** SU22 **Subsequent service life relevant for that use:** No. **Environmental Release Category:** ERC09a, ERC09b
Processes and activities covered by the exposure scenario	:	Covers general use of lubricants and greases in vehiculs or machinery in closed systems. Includes filling and draining of containers and operation of enclosed machinery (including engines) and associated maintenance and storage activities.

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1:

ATIEL-ATC SPERC 9.Bp.v1

Amounts used	:	Volume manufactured/imported (tonnes/year) : 27.5 Fraction of EU tonnage used in region: 0.1 Fraction of regional tonnage used locally: 0.1
Frequency and duration of use	:	Emission days (days per year) : 300
Environment factors not influenced by risk management	:	Local freshwater dilution factor : 10 Local marine water dilution factor : 100
Other operational conditions of use affecting environmental exposure	:	Negligible wastewater emissions as process operates without water contact. Release fraction to air from process (after typical onsite RMMs consistent with EU Solvent Emissions Directive requirements) : 5.00E-02 Release fraction to wastewater from process (after typical onsite RMMs and before (municipal) sewage treatment plant): 5.00E-02 Release fraction to soil from process (after typical onsite RMMs): 5.00E-02
Technical conditions and measures at process level (source) to prevent release	:	Common practices vary across sites thus conservative process release estimates used.
Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil	:	Prevent discharge of undissolved substance to or recover from onsite wastewater.
Organizational measures to prevent/limit release from site	:	Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.
Conditions and measures related to municipal sewage treatment plant	:	Assumed domestic sewage treatment plant flow (m^3/d) : 2.00E+03

Conditions and measures related to external treatment of waste for disposal	:	External treatment and disposal of waste should comply with applicable local and/or national regulations.
Conditions and measures related to external recovery of waste	:	External recovery and recycling of waste should comply with applicable local and/or national regulations.

Contributing scenario controlling worker exposure for 2:

No exposure assessment presented for human health.

Section 3 - Exposure estimation and reference to its source

Website:	:	Not applicable.

Exposure estimation and reference to its source - Environment: 1:

Exposure assessment (environment):	:	Used ECETOC TRA model.
Exposure estimation and reference to its source	:	Not available.

Exposure estimation and reference to its source - Workers: 2:

Exposure assessment (human):	:	The risk Management Mesures/Operational Conditions that are identified in the Exposure Scenario are the outcome of a quantitative and qualitative assessment that covers this product.
Exposure estimation and reference to its source	:	Not available.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment	:	Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Further details on scaling and control technologies are provided in SPERC factsheet. If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required. For further information see www.atiel.org/reach/introduction.
Health	:	Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. For further information see www.atiel.org/reach/introduction.

Additional good practice advice beyond the REACH CSA

Environment	:	Not available.
Health	:	Not available.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition	:	Mixture
Code	:	081226
Product name	:	NEVASTANE XMF 2

Section 1 - Title

Short title of the exposure scenario	:	Use of lubricants and greases in open systems - Industrial
List of use descriptors	:	**Identified use name:** Use of lubricants and greases in open systems - Industrial **Process Category:** PROC01, PROC02, PROC07, PROC08b, PROC09, PROC10, PROC13 **Sector of end use:** SU03 **Subsequent service life relevant for that use:** No. **Environmental Release Category:** ERC04
Processes and activities covered by the exposure scenario	:	Covers use of lubricants and greases in open systems, including application of lubricant to work pieces or equipment by dipping, brushing or spraying (without exposure to heat), e.g. mold releases, corrosion protection, slideways. Includes associated product storage, material transfers, sampling and maintenance activities

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1:

ATIEL-ATC SPERC 4.Ci.v1

Amounts used	:	Volume manufactured/imported (tonnes/year) : 16.5 Fraction of EU tonnage used in region : 0.1 Fraction of regional tonnage used locally : 0.1
Frequency and duration of use	:	Emission days (days per year) : 300
Environment factors not influenced by risk management	:	Local freshwater dilution factor : 10 Local marine water dilution factor : 100
Other operational conditions of use affecting environmental exposure	:	Negligible wastewater emissions as process operates without water contact. Release fraction to air from process (after typical onsite RMMs consistent with EU Solvent Emissions Directive requirements) : 1.00E-03 Release fraction to wastewater from process (after typical onsite RMMs and before (municipal) sewage treatment plant): 2.00E-03 Release fraction to soil from process (after typical onsite RMMs): 1.00E-02
Technical conditions and measures at process level (source) to prevent release	:	Common practices vary across sites thus conservative process release estimates used.
Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil	:	Treat air emission to provide a typical removal efficiency of (%) : 70 Prevent discharge of undissolved substance to or recover from onsite wastewater. User sites are assumed to be provided with oil/water separators and for waste water to be discharged via public sewer system.
Organizational measures to prevent/limit release from site	:	Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.
Conditions and measures related to municipal sewage treatment plant	:	Assumed domestic sewage treatment plant flow (m^3/d) : 2.00E+03

Conditions and measures related to external treatment of waste for disposal	:	External treatment and disposal of waste should comply with applicable local and/or national regulations.
Conditions and measures related to external recovery of waste	:	External recovery and recycling of waste should comply with applicable local and/or national regulations.

Contributing scenario controlling worker exposure for 2:

No exposure assessment presented for human health.

Section 3 - Exposure estimation and reference to its source

Website:	:	Not applicable.

Exposure estimation and reference to its source - Environment: 1:

Exposure assessment (environment):	:	Used ECETOC TRA model.
Exposure estimation and reference to its source	:	Not available.

Exposure estimation and reference to its source - Workers: 2:

Exposure assessment (human):	:	The risk Management Mesures/Operational Conditions that are identified in the Exposure Scenario are the outcome of a quantitative and qualitative assessment that covers this product.
Exposure estimation and reference to its source	:	Not available.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment	:	Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Further details on scaling and control technologies are provided in SPERC factsheet. If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required. For further information see www.atiel.org/reach/introduction.
Health	:	Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. For further information see www.atiel.org/reach/introduction.

Additional good practice advice beyond the REACH CSA

Environment	:	Not available.
Health	:	Not available.