

Nytro Lyra X



SAFETY DATA SHEET

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

1.1 Product identifier

Product name	Nytro Lyra X
Product description	Insulating oil
Product type	Liquid.

1.2 Identified uses

Identified uses
Manufacture of substance- Industrial Distribution of substance- Industrial Formulation and (re)packing of substances and mixtures- Industrial Use as functional fluids e.g. cable oils, transfer oils, coolants, insulators, refrigerants, hydraulic fluids in industrial equipment including maintenance and related material transfers. Use as functional fluids e.g. cable oils, transfer oils, coolants, insulators, refrigerants, hydraulic fluids in professional equipment including maintenance and related material transfers. Use in formulations in lubricants- Industrial Use as lubricant in open and closed systems - Professional
Uses advised against
None known.
Reason

1.3 Details of the supplier of the safety data sheet

ReinhardOil.dk ApS
 8 Helleruplund Alle
 DK-2900 Hellerup
 Denmark
 +45 70 26 70 07 Fax + 45 70 26 70 47
 www.reinhardoil.dk



e-mail address of person responsible for this SDS: sq@reinhardoil.dk

1.4 Emergency telephone number

National advisory body/Poison Centre
 Telephone number: +44 (0) 1235 239 670
 Hours of operation: 24 hour service

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]
 Asp. Tox. 1, H304
 Aquatic Chronic 3, H412
Classification according to Directive 1999/45/EC [DPD]
 R52/53

Environmental hazards: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

2.2 Label elements

Hazard pictograms



Signal word: Danger

Nytro Lyra X

SECTION 2: Hazards identification

Hazard statements	May be fatal if swallowed and enters airways. Harmful to aquatic life with long lasting effects.
<u>Precautionary statements</u>	
Prevention	Avoid release to the environment.
Response	IF SWALLOWED: Immediately call a POISON CENTER or physician. Do NOT induce vomiting.
Storage	Not applicable.
Disposal	Dispose of waste product or used containers according to local regulations.

2.3 Other hazards

Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII No.

Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII No.

SECTION 3: Composition/information on ingredients

Substance/mixture		Mixture			
Product/ingredient name	Identifiers	%	Classification		Type
			67/548/EEC	Regulation (EC) No. 1272/2008 [CLP]	
Distillates (petroleum), hydrotreated light naphthenic	REACH #: 01-2119480375-34 EC: 265-156-6 CAS: 64742-53-6 Index: 649-466-00-2	50 - 100	Not classified.	Asp. Tox. 1, H304	[1] [2]
Distillates (petroleum), hydrotreated light paraffinic	REACH #: 01-2119487077-29 EC: 265-158-7 CAS: 64742-55-8 Index: 649-468-00-3	0 - 50	Not classified.	Asp. Tox. 1, H304	[1] [2]
Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based	REACH #: 01-2119474889-13 EC: 276-738-4 CAS: 72623-87-1 Index: 3.1: 649-483-00-5 3.2: 649-438-00-5	0 - 50	Not classified.	Asp. Tox. 1, H304	[1] [2]
Distillates (petroleum), hydrotreated heavy paraffinic	REACH #: 01-2119484627-25 EC: 265-157-1 CAS: 64742-54-7 Index: 649-467-00-8	0 - 50	Not classified.	Asp. Tox. 1, H304	[1] [2]
Lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based	REACH #: 01-2119474878-16 EC: 276-737-9 CAS: 72623-86-0 Index: 649-482-00-X	0 - 30	Not classified.	Asp. Tox. 1, H304	[1] [2]
2,6-di-tert-butyl-p-cresol	REACH #: 01-2119555270-46 EC: 204-881-4 CAS: 128-37-0	<0.4	N; R50/53	Aquatic Acute 1, H400 Aquatic Chronic 1, H410	[1] [2]
			See Section 16 for the full text of the R-phrases declared above.	See Section 16 for the full text of the H statements declared above.	

SECTION 3: Composition/information on ingredients

Annex I Nota L applies to the base oil(s) in this product. Nota L - The classification as a carcinogen need not apply if it can be shown that the substance contains less than 3 % DMSO extract as measured by IP 346.

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

[4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII

SECTION 4: First aid measures

4.1 Description of first aid measures

Eye contact	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If irritation, blurred vision or swelling occurs and persists, obtain medical advice from a specialist.
Inhalation	If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. If casualty is unconscious and: If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Immediately obtain specialist medical assessment and treatment for the casualty. Call a physician.
Skin contact	Remove contaminated clothing and shoes. Wash with soap and water. Handle with care and dispose of in a safe manner. Seek medical attention if skin irritation, swelling or redness develops and persists.
Ingestion	Accidental high pressure injection through the skin requires immediate medical attention. Do not wait for symptoms to develop. Always assume that aspiration has occurred. Do not induce vomiting as there is high risk of aspiration. Never give anything by mouth to an unconscious person. Seek professional medical attention or send the casualty to a hospital. Do not wait for symptoms to develop.
Protection of first-aiders	No action shall be taken involving any personal risk or without suitable training. Before attempting to rescue casualties, isolate area from all potential sources of ignition including disconnecting electrical supply. Ensure adequate ventilation and check that a safe, breathable atmosphere is present before entry into confined spaces.

4.2 Most important symptoms and effects, both acute and delayed

Potential acute health effects

Eye contact	Eye contact may cause redness and transient pain.
Inhalation	Inhalation of oil mist or vapours at elevated temperatures may cause respiratory irritation.
Skin contact	No known significant effects or critical hazards.
Ingestion	Nausea or vomiting. Aspiration hazard if swallowed. Can enter lungs and cause damage. Ingestion (swallowing) of this material may result in an altered state of consciousness and loss of coordination.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician	Due to low viscosity there is a risk of aspiration if the product enters the lungs. Ingestion (swallowing) of this material may result in an altered state of consciousness and loss of coordination. Treat symptomatically.
Specific treatments	Always assume that aspiration has occurred.

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 direct water jets on the burning product; they could cause splattering and spread the fire. Simultaneous use of foam and water on the same surface is to be avoided as water destroys the foam.

SECTION 5: Firefighting measures

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture	In a fire or if heated, a pressure increase will occur and the container may burst. This substance will float and can be reignited on surface water.
Hazardous combustion products	Incomplete combustion is likely to give rise to a complex mixture of airborne solid and liquid particulates, gases, including carbon monoxide, H ₂ S, SO _x (sulfur oxides) or sulfuric acid and unidentified organic and inorganic compounds.

5.3 Advice for firefighters

Special precautions 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.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	Keep non-involved personnel away from the area of spillage. Alert emergency personnel. Except in case of small spillages, the feasibility of any actions should always be assessed and advised, if possible, by a trained, competent person in charge of managing the emergency. Stop leak if safe to do so. Avoid direct contact with the product. Stay upwind/keep distance from source. In case of large spillages, alert occupants in downwind areas.
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Eliminate all ignition sources if safe to do so. Spillages of limited amounts of product, especially in the open air when vapours will be usually quickly dispersed, are dynamic situations, which will presumably limit the exposure to dangerous concentrations.

Note : recommended measures are based on the most likely spillage scenarios for this material; however, local conditions (wind, air temperature, wave/current direction and speed) may significantly influence the choice of appropriate actions. For this reason, local experts should be consulted when necessary. Local regulations may also prescribe or limit actions to be taken.

For emergency responders	Small spillages: normal antistatic working clothes are usually adequate.
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Large spillages: full body suit of chemically resistant and thermal resistant material should be used. Work gloves providing adequate chemical resistance, specifically to aromatic hydrocarbons. Note : gloves made of PVA are not water-resistant, and are not suitable for emergency use. Safety helmet, antistatic non-skid safety shoes or boots. Goggles and /or face shield, if splashes or contact with eyes is possible or anticipated.

Respiratory protection : A half or full-face respirator with filter(s) for organic vapours (and when applicable for H₂S) a Self Contained Breathing Apparatus (SCBA) can be used according to the extent of spill and predictable amount of exposure. If the situation cannot be completely assessed, or if an oxygen deficiency is possible, only SCBA's should be used.

6.2 Environmental precautions

Water polluting material. Prevent product from entering sewers, rivers or other bodies of water. If necessary dike the product with dry earth, sand or similar non-combustible materials. In case of soil contamination, remove contaminated soil and treat in accordance with local regulations. In case of small spillages in closed waters (i.e. ports), contain product with floating barriers or other equipment. Collect spilled product by absorbing with specific floating absorbents.

If possible, large spillages in open waters should be contained with floating barriers or other mechanical means. If this is not possible, control the spreading of the spillage, and collect the product by skimming or other suitable mechanical means. The use of dispersants should be advised by an expert, and, if required, approved by local authorities.

SECTION 6: Accidental release measures

6.3 Methods and materials for containment and cleaning up

Small spill	Stop leak if without risk. Absorb spilled product with suitable non-combustible materials.
Large spill	Large spillages may be cautiously covered with foam, if available, to limit vapour cloud formation. Do not use water jet. When inside buildings or confined spaces, ensure adequate ventilation. Transfer collected product and other contaminated materials to suitable containers for recovery or safe disposal.

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

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

General information	Obtain special instructions before use. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use and store only outdoors or in a well-ventilated area. Avoid release to the environment.
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7.1 Precautions for safe handling

Protective measures	Do not ingest. Avoid contact with skin. Avoid breathing fume/mist. Do not breathe vapour. Use personal protective equipment as required. Prevent the risk of slipping. Take precautionary measures against static discharge. Avoid splash filling of bulk volumes when handling hot liquid product. Note: see section 8 for personal protective equipment and section 13 for waste disposal.
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Advice on general occupational hygiene

Ensure that proper housekeeping measures are in place. Contaminated materials should not be allowed to accumulate in the workplaces and should never be kept inside the pockets. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Wash hands thoroughly after handling. Change contaminated clothes at the end of working shift.

7.2 Conditions for safe storage, including any incompatibilities

Storage area layout, tank design, equipment and operating procedures must comply with the relevant European, national or local legislation. Storage installations should be designed with adequate bunds in case of leaks or spills. Cleaning, inspection and maintenance of internal structure of storage tanks must be done only by properly equipped and qualified personnel as defined by national, local or company regulations.

Use personal protective equipment as required.

Store separately from oxidising agents.

Recommended materials for containers, or container linings use mild steel, stainless steel. Not suitable : Some synthetic materials may be unsuitable for containers or container linings depending on the material specification and intended use. Compatibility should be checked with the manufacturer.

Keep only in the original container or in a suitable container for this kind of product. Keep containers tightly closed and properly labelled. Protect from sunlight. Empty containers may contain harmful, flammable/combustible or explosive residue or vapours. Do not cut, grind, drill, weld, reuse or dispose of containers unless adequate precautions are taken against these hazards.

SECTION 8: Exposure controls/personal protection

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

8.1 Control parameters

Occupational exposure limits

Product/ingredient name	Exposure limit values
Oil mist	Arbejdstilsynet (Denmark, 5/2011). TWA: 1 mg/m ³ 8 hour(s). Form: mist and particles
2,6-di-tert-butyl-p-cresol	Arbejdstilsynet (Denmark, 5/2011). TWA: 10 mg/m ³ 8 hour(s).

Recommended monitoring procedures

If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to European Standard EN 689 for methods for the assessment of exposure by inhalation to chemical agents and national guidance documents for methods for the determination of hazardous substances.

Derived effect levels

Product/ingredient name	Type	Exposure	Value	Population	Effects
Distillate (petroleum), hydrotreated light naphthenic	DNEL	Long term Inhalation	5,4 mg/m ³	Workers	Local
Distillate (petroleum), Hydrotreated Light Paraffinic	DNEL	Long term Inhalation	5,4 mg/m ³	Workers	Local
Distillates (petroleum), hydrotreated heavy paraffinic	DNEL	Long term Inhalation	5,4 mg/m ³	Workers	Local

Predicted effect concentrations

No PECs available.

8.2 Exposure controls

Appropriate engineering controls

Mechanical ventilation and local exhaust will reduce exposure via the air. Use oil resistant material in construction of handling equipment. Store under recommended conditions and if heated, temperature control equipment should be used to avoid overheating.

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. Ensure that eyewash stations and safety showers are close to the workstation location. Wash contaminated clothing before reuse.

Eye/face protection

If potential exists for splashing, use goggles.

Skin protection

Hand protection

Wear oil-resistant protective gloves (e.g. nitril rubber). PVC gloves. Neoprene gloves.

Body protection

Wear protective clothing if there is a risk of skin contact. Change contaminated clothes at the end of working shift.

Other skin protection

Appropriate footwear and any additional skin protection measures 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

Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary.

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

9.1 Information on basic physical and chemical properties

Appearance

Physical state	Liquid.
Colour	Light yellow
Odour	Odourless/Light petroleum.
Odour threshold	Not available.
pH	Not applicable.
Melting point/freezing point	-48°C
Initial boiling point and boiling range	>250°C
Flash point	Closed cup: >140°C [Pensky-Martens.]
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	Not available.
Vapour pressure	160 Pa @ 100 °C
Vapour density	Not available.
Density	0,87 g/cm ³ [15°C]
Solubility(ies)	Insoluble in water.
Partition coefficient: n-octanol/water	Not available.
Auto-ignition temperature	>270°C
Decomposition temperature	>280°C
Viscosity	Kinematic (40°C): 0,093 cm ² /s (9,3 cSt)
Explosive properties	Not available.
Oxidising properties	Not available.
DMSO extractable compounds for base oil substance(s) according to IP346	< 3%

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 normal conditions.
10.3 Possibility of hazardous reactions	Under normal conditions of storage and use, hazardous reactions will not occur.
10.4 Conditions to avoid	Oxidising agent.
10.5 Incompatible materials	Keep away from extreme heat and oxidizing agents.
10.6 Hazardous decomposition products	Incomplete combustion is likely to give rise to a complex mixture of airborne solid and liquid particulates, gases, including carbon monoxide, H ₂ S, SO _x (sulfur oxides) or sulfuric acid and unidentified organic and inorganic compounds.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

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SECTION 11: Toxicological information

Product/ingredient name	Result	Species	Dose	Exposure
Distillate (petroleum), hydrotreated light naphthenic	LC50 Inhalation Dusts and mists	Rat	>5,53 mg/l	4 hours
	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-
Distillate (petroleum), Hydrotreated Light Paraffinic	LC50 Inhalation Dusts and mists	Rat	>5,53 mg/l	4 hours
	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-
Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based	LC50 Inhalation Dusts and mists	Rat	>5,53 mg/l	4 hours
	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-
Distillates (petroleum), hydrotreated heavy paraffinic	LC50 Inhalation Dusts and mists	Rat	>5,53 mg/l	4 hours
	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-
Lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-
2,6-di-tert-butyl-p-cresol	LD50 Dermal	Rat	>2000 mg/kg	-
	LD50 Oral	Rat	>2000 mg/kg	-

Irritation/Corrosion

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

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

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

Sensitiser

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

Carcinogenicity

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

Aspiration hazard

Product/ingredient name	Result
Distillate (petroleum), hydrotreated light naphthenic	ASPIRATION HAZARD - Category 1
Distillate (petroleum), Hydrotreated Light Paraffinic	ASPIRATION HAZARD - Category 1
Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based	ASPIRATION HAZARD - Category 1
Distillates (petroleum), hydrotreated heavy paraffinic	ASPIRATION HAZARD - Category 1
Lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based	ASPIRATION HAZARD - Category 1

Potential acute health effects

Inhalation Inhalation of oil mist or vapours at elevated temperatures may cause respiratory irritation.

Ingestion Nausea or vomiting. Aspiration hazard if swallowed. Can enter lungs and cause damage. Ingestion (swallowing) of this material may result in an altered state of consciousness and loss of coordination.

Skin contact No known significant effects or critical hazards.

Eye contact Eye contact may cause redness and transient pain.

Potential chronic health effects

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SECTION 11: Toxicological information

Chronic effects	No known significant effects or critical hazards.
Carcinogenicity	No known significant effects or critical hazards.
Mutagenicity	No known significant effects or critical hazards.
Teratogenicity	No known significant effects or critical hazards.
Developmental effects	No known significant effects or critical hazards.
Fertility effects	No known significant effects or critical hazards.
Other information	Not available.
<u>Specific hazard</u>	

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
Distillate (petroleum), hydrotreated light naphthenic	Acute IC50 >100 mg/l	Algae	48 hours
Distillate (petroleum), Hydrotreated Light Paraffinic	Acute LC50 >100 mg/l	Fish	96 hours
	Acute IC50 >100 mg/l	Algae	48 hours
Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based	Acute LC50 >100 mg/l	Fish	96 hours
	Acute IC50 >100 mg/l	Algae	48 hours
Distillates (petroleum), hydrotreated heavy paraffinic	Acute LC50 >100 mg/l	Fish	96 hours
	Acute EC50 >100 mg/l	Fish	96 hours
Lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based	Acute IC50 >100 mg/l	Algae	48 hours
	Acute LC50 >100 mg/l	Fish	96 hours
2,6-di-tert-butyl-p-cresol	Acute EC50 1440 µg/l Fresh water	Daphnia - Daphnia pulex - Neonate	48 hours

Conclusion/Summary Harmful to aquatic life with long lasting effects.

12.2 Persistence and degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Distillate (petroleum), hydrotreated light naphthenic	-	-	Inherent
Distillate (petroleum), Hydrotreated Light Paraffinic	-	-	Inherent
Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based	-	-	Inherent
Distillates (petroleum), hydrotreated heavy paraffinic	-	-	Inherent
Lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based	-	-	Inherent
2,6-di-tert-butyl-p-cresol	-	-	Not readily

Conclusion/Summary Inherently biodegradable.

12.3 Bioaccumulative potential

Conclusion/Summary The product has a potential to bioaccumulate.

12.4 Mobility in soil

Mobility High mobility in soil predicted, based on log Kow > 3.0.

12.5 Results of PBT and vPvB assessment

No.

No.

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SECTION 12: Ecological information

12.6 Other adverse effects Insoluble in water. Spills may form a film on water surfaces causing physical damage to organisms. Oxygen transfer could also be impaired.

SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

13.1 Waste treatment methods

Product

Methods of disposal Where possible (e.g. in the absence of relevant contamination), recycling of used substance is feasible and recommended. This substance can be burned or incinerated, subject to national/local authorizations, relevant contamination limits, safety regulations and air quality legislation. Contaminated or waste substance (not directly recyclable): Disposal can be carried out directly, or by delivery to qualified waste handlers. National legislation may identify a specific organization, and/or prescribe composition limits and methods for recovery or disposal.

Hazardous waste Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 91/689/EEC.

Packaging

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

SECTION 14: Transport information

International transport regulations

This product is not regulated for carriage according to ADR/RID, ADN, IMDG, ICAO/IATA.

14.7 Transport in bulk according to Annex I of MARPOL 73/78 and the IBC Code Mineral oil.

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 authorisation

Substances of very high concern

None of the components are listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles Not applicable.

Other EU regulations

Europe inventory All components are listed or exempted.

List of undesirable substances Not listed

15.2 Chemical Safety Assessment This product contains substances for which Chemical Safety Assessments are still required.

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SECTION 16: Other information

Revision comments Not available.

✔ Indicates information that has changed from previously issued version.

Abbreviations and acronyms ATE = Acute Toxicity Estimate
 CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
 DNEL = Derived No Effect Level
 EUH statement = CLP-specific Hazard statement
 PNEC = Predicted No Effect Concentration
 RRN = REACH Registration Number

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

Classification	Justification
Asp. Tox. 1, H304 Aquatic Chronic 3, H412	Calculation method Calculation method

Denmark

Full text of abbreviated H statements	H304 May be fatal if swallowed and enters airways. H400 Very toxic to aquatic life. H410 Very toxic to aquatic life with long lasting effects. H412 Harmful to aquatic life with long lasting effects.
Full text of classifications [CLP/GHS]	Aquatic Acute 1, H400 AQUATIC TOXICITY (ACUTE) - Category 1 Aquatic Chronic 1, H410 AQUATIC TOXICITY (CHRONIC) - Category 1 Aquatic Chronic 3, H412 AQUATIC TOXICITY (CHRONIC) - Category 3 Asp. Tox. 1, H304 ASPIRATION HAZARD - Category 1
Full text of abbreviated R phrases	R50/53- Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. R52/53- Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Full text of classifications [DSD/DPD]	N - Dangerous for the environment
Date of printing	2013-10-28.
Date of issue/ Date of revision	2013-10-28.
Date of previous issue	2013-08-14.
Version	3

Notice to reader

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.

Identification of the substance or mixture

Product definition	Mixture
Product name	Nytro Lyra X

Section 1: - Title

Short title of the exposure scenario	Use in formulations in lubricants- Industrial (2,6-di-tert-butyl-p-cresol)
List of use descriptors	<p>Identified use name: Use in formulations in lubricants- Industrial</p> <p>Process Category: PROC01, PROC02, PROC03, PROC04, PROC05, PROC08a, PROC08b, PROC09</p> <p>Substance supplied to that use in form of: As such</p> <p>Sector of end use: SU03, SU10</p> <p>Subsequent service life relevant for that use: No.</p> <p>Environmental Release Category: ERC02</p> <p>Market sector by type of chemical product: PC17, PC24, PC25</p>
Environmental contributing scenarios	
Health Contributing Scenarios	

Number of the ES	Not applicable.
Industry Association	Not applicable.
Generic exposure scenario	Not applicable.
Processes and activities covered by the exposure scenario	Covers the use of formulated lubricants within closed or contained systems including incidental exposures during material transfers, operation of machinery/engines and similar articles, equipment maintenance and disposal of wastes.
Additional information	Industrial

Section 2: - Exposure controls

Product characteristics	<p>solid</p> <p>Melting/Freezing Point (°C): 69.8</p>
Concentration of substance in mixture or article	≤100%
Amounts used	Annual site tonnage (tonnes/year): 110 t/a
Frequency and duration of use	Continuous release.(d/a): 300
Environment factors not influenced by risk management	<p>Local freshwater dilution factor: 10</p> <p>Receiving surface water flow is 18000 m³/d.</p> <p>Local marine water dilution factor: 100</p>
Other given operational conditions affecting environmental exposure	Not applicable.
Technical conditions and measures at process level (source) to prevent release	<p>% Release fraction to wastewater from process (initial release prior to RMM): 0.2</p> <p>% Release fraction to air from process (initial release prior to RMM): 0.01</p> <p>% Release fraction to soil from process (initial release prior to RMM): 0</p>
Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil	<p>On-site wastewater treatment required.</p> <p>Ensure all waste water is collected and treated via a waste water treatment plant.</p> <p>Floors should be impervious, resistant to liquids and easy to clean.</p>
Organisational measures to prevent/limit release from site	Ensure operatives are trained to minimise exposures.
Conditions and measures related to municipal sewage treatment plant	Size of industrial sewage treatment plant (m3/d): 2000

Section 2: - Exposure controls

Conditions and measures related to external treatment of waste for disposal	No special measures are required. General information, See section 13 for waste disposal information.
Conditions and measures related to external recovery of waste	See section 13 for waste disposal information.

Contributing scenario controlling worker exposure for 0:

Product characteristics	Melting/Freezing Point (°C): 69.8
Concentration of substance in mixture or article	≤100%
Physical state	solid
Dust	Solid, medium dustiness.
Frequency and duration of use	Exposure duration per day: 8 h (full shift). Exposure duration per year: 230 d
Human factors not influenced by risk management	Respiratory (m ³ /d): 10
Other given operational conditions affecting workers exposure	The product should be handled at room temperature.
Technical conditions and measures at process level (source) to prevent release	No special measures required.
Technical conditions and measures to control dispersion from source towards the worker	Handle only in a place with local exhaust ventilation (or other adequate ventilation).
Organisational measures to prevent/limit releases, dispersion and exposure	Ensure operatives are trained to minimise exposures.
Conditions and measures related to personal protection and hygiene	
Personal protection	Wear protective clothing. See Section 8 of the safety data sheet (personal protective equipment).

Section 3: - Exposure estimation and reference to its source

Website: Not available.

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

Exposure assessment (environment):	Used EUSES model.(v2.1).
Exposure estimation	Risk characterisation ratio (PEC/PNEC): <1

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

Exposure assessment (human):	Used ECETOC TRA model (May 2010 release). (04/2010)
Exposure estimation	Risk characterisation ratio DNELs <1

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

Environment	Not available.
Health	Not available.

Nytro Lyra X

Use in formulations in lubricants- Industrial (2,6-di-tert-butyl-
p-cresol)

Environment

Not applicable.

Health

Wear protective gloves/protective clothing/eye protection/face protection.

Wear respiratory protection.

See Section 8 for information on appropriate personal protective equipment

Identification of the substance or mixture

Product definition	Mixture
Product name	Nytro Lyra X

Section 1: - Title

Short title of the exposure scenario	Use as lubricant in open and closed systems- Professional (2,6-di-tert-butyl-p-cresol)
List of use descriptors	<p>Identified use name: Use as lubricant in open and closed systems - Professional</p> <p>Process Category: PROC01, PROC02, PROC03, PROC04, PROC05, PROC07, PROC08a, PROC08b, PROC09, PROC10, PROC11, PROC13</p> <p>Substance supplied to that use in form of: As such</p> <p>Sector of end use: SU22</p> <p>Subsequent service life relevant for that use: No.</p> <p>Environmental Release Category: ERC08a, ERC08d, ERC09a, ERC09b</p> <p>Market sector by type of chemical product: PC17, PC24</p>
Environmental contributing scenarios	
Health Contributing Scenarios	

Number of the ES	Not applicable.
Industry Association	Not applicable.
Generic exposure scenario	Not applicable.
Processes and activities covered by the exposure scenario	Covers the use of formulated lubricants in closed and open systems including transfer operations, operation of engines and similar articles, reworking on reject articles, equipment maintenance and disposal of waste oil.
Additional information	Professional

Section 2: - Exposure controls

Product characteristics	<p>solid</p> <p>Melting/Freezing Point (°C): 69.8</p>
Concentration of substance in mixture or article	≤2%
Amounts used	<p>Annual site tonnage (tonnes/year):</p> <p>≤0.16 t/a (Closed system)</p> <p>≤0.03 t/a (open systems)</p>
Frequency and duration of use	Continuous release.(d/a): 300
Environment factors not influenced by risk management	<p>Local freshwater dilution factor: 10</p> <p>Receiving surface water flow is 18000 m³/d.</p> <p>Local marine water dilution factor: 100</p>
Other given operational conditions affecting environmental exposure	Not applicable.
Technical conditions and measures at process level (source) to prevent release	<p>% Release fraction to wastewater from process (initial release prior to RMM): 0.2</p> <p>% Release fraction to air from process (initial release prior to RMM): 0.01</p> <p>% Release fraction to soil from process (initial release prior to RMM): 1</p>
Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil	<p>On-site wastewater treatment required.</p> <p>Ensure all waste water is collected and treated via a waste water treatment plant.</p> <p>Floors should be impervious, resistant to liquids and easy to clean.</p>
Organisational measures to prevent/limit release from site	Ensure operatives are trained to minimise exposures.

Section 2: - Exposure controls

Conditions and measures related to municipal sewage treatment plant	Size of industrial sewage treatment plant (m ³ /d): 2000
Conditions and measures related to external treatment of waste for disposal	No special measures are required. See section 13 for waste disposal information.
Conditions and measures related to external recovery of waste	See section 13 for waste disposal information.

Contributing scenario controlling worker exposure for 0:

Product characteristics	Melting/Freezing Point (°C): 69.8
Concentration of substance in mixture or article	≤2%
Physical state	solid
Dust	Solid, medium dustiness.
Frequency and duration of use	Exposure duration per year: 230 days Exposure duration per day: 8 h (full shift).
Human factors not influenced by risk management	Respiratory m ³ /d: 10
Other given operational conditions affecting workers exposure	The product should be handled at room temperature. Lubricants (Closed system)
Technical conditions and measures at process level (source) to prevent release	No special measures required.
Technical conditions and measures to control dispersion from source towards the worker	Handle only in a place with local exhaust ventilation (or other adequate ventilation).
Organisational measures to prevent/limit releases, dispersion and exposure	Ensure operatives are trained to minimise exposures.
Conditions and measures related to personal protection and hygiene	
Personal protection	Wear protective clothing. See Section 8 of the safety data sheet (personal protective equipment).

Section 3: - Exposure estimation and reference to its source

Website: Not available.

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

Exposure assessment (environment):	Used EUSES model. (v2.1)
Exposure estimation	Risk characterisation ratio (PEC/PNEC): <1

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

Exposure assessment (human):	Used ECETOC TRA model (May 2010 release).
Exposure estimation	Risk characterisation ratio DNELs <1

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

Environment	Not available.
Health	Not available.

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

Environment

Not available.

Health

Wear protective gloves/protective clothing/eye protection/face protection.

Wear respiratory protection.

See Section 8 for information on appropriate personal protective equipment.

Identification of the substance or mixture

Product definition Mixture
 Product name Nytro Lyra X

Identified uses	Sector of uses [SU]:	Process categories [PROC]:	Product categories [PC]:	Article categories [AC]:	Environmental release categories [ERC]:	SpERC
Manufacture of substance -Industrial	3, 8, 9	1, 2, 3, 4, 8a, 8b, 15	Not applicable.	Not applicable.	1, 4	ESVOC SpERC 1.1.v1
Distribution of substance- Industrial	3	1, 2, 3, 4, 8a, 8b, 9, 15	Not applicable.	Not applicable.	1, 2, 3, 4, 5, 6a, 6b, 6c, 6d, 7	ESVOC SpERC 1.1b.v1
Formulation and (re) packing of substances and mixtures -Industrial	3, 10	1, 2, 3, 4, 5, 8a, 8b, 9, 14, 15	Not applicable.	Not applicable.	2	ESVOC SpERC 2.2.v1
Uses in Coatings - Industrial	3	1, 2, 3, 4, 5, 7, 8a, 8b, 10, 13, 15	Not applicable.	Not applicable.	4	ESVOC SpERC 4.3a.v1
Uses in Coatings - Professional	22	1, 2, 3, 4, 5, 8a, 8b, 10, 11, 13, 15, 19	Not applicable.	Not applicable.	8a, 8d	ESVOC SpERC 8.3a.v1
Use as functional fluids e.g. cable oils, transfer oils, coolants, insulators, refrigerants, hydraulic fluids in industrial equipment including maintenance and related material transfers. -Industrial	3	1, 2, 3, 4, 8a, 8b, 9	Not applicable.	Not applicable.	7	ESVOC SpERC 7.13a.v1
Use as functional fluids e.g. cable oils, transfer oils, coolants, insulators, refrigerants, hydraulic fluids in industrial equipment including maintenance and related material transfers. - Professional	22	1, 2, 3, 8a, 9, 20	Not applicable.	Not applicable.	9a, 9b	ESVOC SpERC 9.13b.v1

Section 1: - Title

Short title of the exposure scenario Insulating oil (classified as Asp. Tox. 1, H304 only; IP346<3%; <20.5cSt@40oC)

List of use descriptors **Identified use name:** Manufacture of substance- Industrial
 Distribution of substance- Industrial
 Formulation and (re)packing of substances and mixtures- Industrial
 Use as functional fluids e.g. cable oils, transfer oils, coolants, insulators, refrigerants, hydraulic fluids in industrial equipment including maintenance and related material transfers.
 Use as functional fluids e.g. cable oils, transfer oils, coolants, insulators, refrigerants, hydraulic fluids in professional equipment including maintenance and related material transfers.
Subsequent service life relevant for that use: No.
Market sector by type of chemical product: Not applicable.
Article category related to subsequent service life: Not applicable.

Section 1: - Title

Environmental contributing scenarios

Health Contributing Scenarios

Number of the ES

Industry Association

Concawe

Generic exposure scenario

01, 01a, 02, 13a, 13b

Processes and activities covered by the exposure scenario

01- Manufacture of the substance or use as a process chemical or extraction agent within closed or contained systems. Includes incidental exposures during recycling/recovery, material transfers, storage, sampling, associated laboratory activities, maintenance and loading (including marine vessel/barge, road/rail car and bulk container).

01a- Bulk loading (including marine vessel/barge, rail/road car and IBC loading) of substance within closed or contained systems, including incidental exposures during its sampling, storage, unloading, maintenance and associated laboratory activities.

02- Formulation, packing and re-packing of the substance and its mixtures in batch or continuous operations, including storage, materials transfers, mixing, tableting, compression, pelletisation, extrusion, large and small scale packing, sampling, maintenance and associated laboratory activities.

13a- Use as functional fluids e.g. cable oils, transfer oils, coolants, insulators, refrigerants, hydraulic fluids in industrial equipment including maintenance and related material transfers.

13b- Use as functional fluids e.g. cable oils, transfer oils, coolants, insulators, refrigerants, hydraulic fluids in professional equipment including maintenance and related material transfers.

Additional information

Section 2: - Exposure controls

Product characteristics

Substance is complex UVCB. Predominantly hydrophobic

Frequency and duration of use

Continuous release.

Environment factors not influenced by risk management

Local freshwater dilution factor: 10
Local marine water dilution factor: 100

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

Risk from environmental exposure is driven by freshwater sediment.
No wastewater treatment required. Prevent discharge of undissolved substance to or recover from onsite wastewater.

Risk management measures - Water

Treat on-site wastewater (prior to receiving water discharge) to provide the required removal efficiency of ³ (%): 0
If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of ³ (%): 0

Organisational 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 external treatment of waste for disposal

During manufacturing, no waste of the substance is generated.

Conditions and measures related to external recovery of waste

During manufacturing, no waste of the substance is generated.

Section 2: - Exposure controls

Contributing scenario controlling worker exposure for 0:

Product characteristics Liquid, vapour pressure < 0.5 kPa at STP.
 Concentration of substance Covers percentage substance in the product up to 100% (unless stated differently)
 in mixture or article

Physical state liquid

Frequency and duration of Covers daily exposures up to 8 hours (unless stated differently).
 use

Other given operational Operation is carried out at elevated temperature (> 20°C above ambient
 conditions affecting workers temperature). Assumes a good basic standard of occupational hygiene is
 exposure implemented.
 Aspiration hazard if swallowed.
 Aspiration means the entry of a liquid substance directly into the trachea and lower
 respiratory tract.
 Aspiration of hydrocarbon substances can result in severe acute effects such as
 chemical pneumonitis, varying degree of pulmonary injury or death.
 This property relates to the potential for low viscosity material to spread quickly into
 the deep lung and cause severe pulmonary tissue damage.
 Classification of a hydrocarbon substance for aspiration hazard is made on the
 basis of reliable human evidence or on the basis of physical properties.
 Do not induce vomiting as there is high risk of aspiration.
 If swallowed, call a Poison Control Centre or doctor immediately.

Contributing scenarios - Operational conditions and risk management measures

General exposures (closed systems)
 Handle substance within a closed system.

General exposures (closed systems)
 with sample collection
 Handle substance within a closed system. Wear suitable gloves tested to EN374.

Process sampling
 Sample via a closed loop or other system to avoid exposure.

Laboratory activities
 Handle within a fume cupboard or implement suitable equivalent methods to
 minimise exposure. Wear suitable gloves tested to EN374.

Bulk transfers
 Ensure material transfers are under containment or extract ventilation. Wear
 chemical-resistant gloves (tested to EN374) in combination with 'basic' employee
 training.

Equipment cleaning and maintenance
 Drain down and flush system prior to equipment break-in or maintenance.
 Retain drain-downs in sealed storage pending disposal or for subsequent recycle.
 Clear spills immediately. Wear chemical-resistant gloves (tested to EN374) in
 combination with specific activity training.

Bulk product storage
 Store substance within a closed system. Wear suitable gloves tested to EN374.

Conditions and measures related to personal protection and hygiene

Personal protection See Section 8 of the safety data sheet (general health and safety measures).
 See Section 8 of the safety data sheet (personal protective equipment).

Section 3: - Exposure estimation and reference to its source

Website: Not applicable.

Section 3: - Exposure estimation and reference to its source

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

Exposure assessment (environment):	Not available.
Exposure estimation	The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model.

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

Exposure assessment (human):	Not available.
Exposure estimation	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

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

Environment	<p>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. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Further details on scaling and control technologies are provided in SpERC factsheet. Scaled local assessments for EU refineries have been performed using site-specific data and are attached in PETRORISK file - "Site-Specific Production" worksheet.</p>
Health	<p>The CLP hazard statement H304: May be fatal if swallowed and enters airways (the DPD risk phrase R65: Harmful: may cause lung damage if swallowed) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e. kinematic viscosity) that can occur during ingestion and also if it is vomited following ingestion.</p> <p>A DNEL (derived no effect levels) cannot be derived.</p> <p>This general qualitative CSA (chemical safety assessment) approach aims to reduce/avoid contact or incidents with the substance.</p> <p>However, implementation of risk management measures (RMMs) and operational conditions (OCs) need to be proportional to the degree of concern for the health hazard presented by the substance.</p> <p>Exposures should be controlled to at least the levels that represent an acceptable level of risk such that the implementation of the chosen RMMs will ensure that the likelihood of an event occurring due to the substance hazard is negligible, and the risk is considered to be controlled to a level of no concern.</p> <p>There are no routine anticipated exposures by ingestion related to any supported uses of the substance. The risk arising from aspiration hazard is solely related to the physico-chemical properties of the substance. The risk can therefore be controlled by implementing risk management measures tailored to this specific risk.</p> <p>For any substance, classifies as H304 (R65), these measures should be communicated via the safety data sheet by use of the following phrase: Do not ingest. If swallowed then seek immediate medical assistance.</p>