

INDUSTRIAL GEAR POWER SYNTH 320

Industrial Gear Oil

INDUSTRIAL GEAR POWER SYNTH 320 is an ultra-high performance fully synthetic industrial gear oil suitable for wind-turbines, heavy loaded closed gear boxes and circulation systems operating under extreme conditions and high temperatures.

INDUSTRIAL GEAR POWER SYNTH 320 is formulated with special selected 100% Poly Alpha Olefine (PAO) base stocks in combination with an unique EP-additive technology to achieve the following performance:

- Outstanding load carrying capability
- Excellent low temperature properties
- Effective lubrication over a wide temperature range
- Superior thermo- and oxidation stability
- Long service intervals
- Excellent protection against rust, wear and foaming
- Very high demulsibility
- Excellent corrosion and micropitting protection (both 90°C and 60°C tests of Winergy and Vestas)

INDUSTRIAL GEAR POWER SYNTH 320 meets the following performance criteria:

DIN 51517, part 3
ISO 12925-L-CKD/CKE
CM P74

AGMA 9005-EO2
T7300 SEW
AIST 224

AGMA/AWEA 6006-A03
Siemens / Flender

Typical Analysis

Properties	Unit	Method	Typical Value
Density @15°C	kg/m ³	ASTM D4052	856
Kin. Viscosity @40°C	mm ² /s	ASTM D7042	317
Kin. Viscosity @100°C	mm ² /s	ASTM D7042	41
Viscosity Index		ASTM D2270	183
Flash Point COC, min	°C	ASTM D92	>201
Pour Point	°C	ASTM D7346	-48
FZG Fail Load Stage, min		DIN 51354-2	>12
Demulsibility @82°C	max	DIN 51599	20
Date Issued: 10-6-2021		Supersedes: 22-06-2017	Revision Nr.: 02



SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

Product form	: Mixture
Product name	: 74280 - INDUSTRIAL GEAR POWER SYNTH 320
Product code	: 74280
Type of product	: Lubricant
Product group	: Industrial

1.2. Relevant identified uses of the substance or mixture and uses advised against**1.2.1. Relevant identified uses**

Function or use category : Lubricants and additives

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

North Sea Lubricants B.V. B.V.
Ampèrestraat 5
NL- 3846AN Harderwijk
The Netherlands
T +31 651345369
support@northsealubricants.com - www.northsealubricants.com

1.4. Emergency telephone number

Emergency number : +31 (0)786527652
Monday to Friday: 09:00 - 16:00 (CET)

SECTION 2: Hazards identification**2.1. Classification of the substance or mixture****Classification according to Regulation (EC) No. 1272/2008 [CLP]**

Not classified

Adverse physicochemical, human health and environmental effects

To our knowledge, this product does not present any particular risk, provided it is handled in accordance with good occupational hygiene and safety practice.

2.2. Label elements**Labelling according to Regulation (EC) No. 1272/2008 [CLP]**

EUH-statements : EUH210 - Safety data sheet available on request.

2.3. Other hazards

Other hazards which do not result in classification : Flammable liquids. Prolonged or repeated skin contact with the material will remove natural oils which leads to a dermatitis. Spills of this product present a serious slipping hazard.

The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605

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SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
1-Decene, homopolymer, hydrogenated	CAS-No.: 68037-01-4 EC-No.: 500-183-1 REACH-no: 01-2119486452-34	10 – 25	Asp. Tox. 1, H304

Full text of H- and EUH-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact	: Wash skin with plenty of water.
First-aid measures after eye contact	: Rinse eyes with water as a precaution.
First-aid measures after ingestion	: Call a poison center or a doctor if you feel unwell.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects	: After adequate first aid, no further treatment is required unless symptoms reappear.
Symptoms/effects after inhalation	: After adequate first aid, no further treatment is required unless symptoms reappear.
Symptoms/effects after skin contact	: After adequate first aid, no further treatment is required unless symptoms reappear.
Symptoms/effects after eye contact	: After adequate first aid, no further treatment is required unless symptoms reappear.
Symptoms/effects after ingestion	: After adequate first aid, no further treatment is required unless symptoms reappear.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Advice for firefighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Protective equipment : Eliminate all ignition sources if safe to do so.
Emergency procedures : Ventilate spillage area.

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6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. Wear suitable protective clothing, gloves and eye/face protection. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment : Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.
Methods for cleaning up : Take up liquid spill into absorbent material.
Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Wear personal protective equipment.
Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in a well-ventilated place. Keep cool.
Storage temperature : 45 °C
Storage area : Store away from heat. Store in a well-ventilated place.
Special rules on packaging : Keep only in original container. Store in a closed container.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

No additional information available

8.1.2. Recommended monitoring procedures

No additional information available

8.1.3. Air contaminants formed

No additional information available

8.1.4. DNEL and PNEC

No additional information available

8.1.5. Control banding

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Appropriate engineering controls:

Ensure good ventilation of the work station.

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8.2.2. Personal protection equipment

Personal protective equipment symbol(s):



8.2.2.1. Eye and face protection

Eye protection:

Safety glasses

8.2.2.2. Skin protection

No additional information available

8.2.2.3. Respiratory protection

No additional information available

8.2.2.4. Thermal hazards

No additional information available

8.2.3. Environmental exposure controls

Environmental exposure controls:

Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Colour	: light yellow.
Odour	: Not available
Odour threshold	: Not available
Melting point	: Not applicable
Freezing point	: -30 °C
Boiling point	: Not available
Flammability	: Not applicable
Explosive limits	: Not available
Lower explosive limit (LEL)	: Not available
Upper explosive limit (UEL)	: Not available
Flash point	: > 221 °C
Auto-ignition temperature	: Not available
Decomposition temperature	: Not available
pH	: Not available
Viscosity, kinematic	: 320 mm ² /s @40°C
Solubility	: insoluble in water.
Partition coefficient n-octanol/water (Log Kow)	: Not available
Vapour pressure	: Not available
Vapour pressure at 50 °C	: Not available
Density	: 861.3 kg/m ³ @15°C
Relative density	: Not available
Relative vapour density at 20 °C	: Not available
Particle size	: Not applicable
Particle size distribution	: Not applicable
Particle shape	: Not applicable
Particle aspect ratio	: Not applicable
Particle aggregation state	: Not applicable
Particle agglomeration state	: Not applicable
Particle specific surface area	: Not applicable
Particle dustiness	: Not applicable

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9.2. Other information

9.2.1. Information with regard to physical hazard classes

No additional information available

9.2.2. Other safety characteristics

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available

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 (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

1-Decene, homopolymer, hydrogenated (68037-01-4)

LD50 oral (rat) 5000 mg/kg

LC50 inhalation (rat) (Dust/Mist - mg/l/4h) 5.2 mg/l/4h

Skin corrosion/irritation : Not classified
Serious eye damage/irritation : Not classified
Respiratory or skin sensitisation : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified
Reproductive toxicity : Not classified
STOT-single exposure : Not classified
STOT-repeated exposure : Not classified

1-Decene, homopolymer, hydrogenated (68037-01-4)

NOAEL (oral, rat, 90 days) 4159.4 mg/kg bodyweight/day

NOAEL (subacute, oral, animal/male, 28 days) 6245 mg/kg bodyweight

Aspiration hazard : Not classified

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Viscosity, kinematic 320 mm²/s @40°C

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11.2. Information on other hazards

No additional information available

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.
Hazardous to the aquatic environment, short-term (acute) : Not classified
Hazardous to the aquatic environment, long-term (chronic) : Not classified

12.2. Persistence and degradability

1-Decene, homopolymer, hydrogenated (68037-01-4)

Persistence and degradability	Not readily biodegradable.
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12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Endocrine disrupting properties

No additional information available

12.7. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.
Product/Packaging disposal recommendations : Dispose of contents/container to an approved waste disposal plant.

SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

ADR	IMDG	IATA	ADN	RID
14.1. UN number or ID number				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.2. UN proper shipping name				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.3. Transport hazard class(es)				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

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ADR	IMDG	IATA	ADN	RID
14.4. Packing group				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.5. Environmental hazards				
Dangerous for the environment: No	Dangerous for the environment: No Marine pollutant: No	Dangerous for the environment: No	Dangerous for the environment: No	Dangerous for the environment: No
No supplementary information available				

14.6. Special precautions for user

Overland transport

No data available

Transport by sea

No data available

Air transport

No data available

Inland waterway transport

No data available

Rail transport

No data available

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

Contains no REACH substances with Annex XVII restrictions

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

Contains no substance subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of hazardous chemicals.

Contains no substance subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

Contains no substance subject to Regulation (EU) 2019/1148 of the European Parliament and of the Council of 20 June 2019 on the marketing and use of explosives precursors.

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Abbreviations and acronyms:

ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
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Abbreviations and acronyms:	
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
BLV	Biological limit value
CAS-No.	Chemical Abstract Service number
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC50	Median effective concentration
EC-No.	European Community number
EN	European Standard
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
OEL	Occupational Exposure Limit
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
vPvB	Very Persistent and Very Bioaccumulative
WGK	Water Hazard Class

Full text of H- and EUH-statements:	
Asp. Tox. 1	Aspiration hazard, Category 1
EUH210	Safety data sheet available on request.
H304	May be fatal if swallowed and enters airways.

The classification complies with : ATP 12

Safety Data Sheet (SDS), EU

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.