

77320 - Industrial Synthetic Gear Oil 680

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878
Issue date: 01/08/2012 Revision date: 24/06/2025 Supersedes version of: 13/03/2025 Version: 4.0

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

1.1. Product identifier

Product form : Mixture
Product name : 77320 - Industrial Synthetic Gear Oil 680
Product code : 77320

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

Relevant identified uses

Main use category : Industrial use, Professional use
Function or use category : Lubricants and additives

1.3. Details of the supplier of the safety data sheet

Transnational Blenders bv
Wieldrechtseweg 37
NL 3316 BG Dordrecht, Netherlands, Zuid Holland
Netherlands
T +31 (0)78 6527652
technical@tnb.nl, www.tnb.nl

1.4. Emergency telephone number

Country/Area	Organisation/Company	Address	Emergency number	Comment
Ireland	National Poisons Information Centre Beaumont Hospital	PO Box 1297 Beaumont Road 9 Dublin	+353 1 809 2566 (Healthcare professionals- 24/7) +353 1 809 2166 (public, 8am - 10pm, 7/7)	

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 : EUH208 - Contains Polysulphides, di-tert-Bu(68937-96-2), Polysulfides, di-tert-dodecyl(68425-15-0). May produce an allergic reaction.
EUH210 - Safety data sheet available on request.

2.3. Other hazards

Contains no PBT and/or vPvB substances $\geq 0.1\%$ assessed in accordance with REACH Annex XIII

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 substance(s) are 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 at a concentration equal to or greater than 0,1 %

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SECTION 3: Composition/information on ingredients

3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
1-decene, homopolymer, hydrogenated substance with national workplace exposure limit(s) (BG)	CAS-No.: 68037-01-4 EC-No.: 500-183-1 REACH-no: 01-2119486452-34	≥ 55 – < 75	Not classified
Polysulphides, di-tert-Bu	CAS-No.: 68937-96-2 EC-No.: 273-103-3	≥ 0.5 – < 1	Skin Sens. 1B, H317 Aquatic Chronic 3, H412
Polysulfides, di-tert-dodecyl	CAS-No.: 68425-15-0 EC-No.: 270-335-7 REACH-no: 01-2119540516-41	≥ 0.3 – < 1	Skin Sens. 1B, H317

Specific concentration limits:

Name	Product identifier	Specific concentration limits (%)
Polysulphides, di-tert-Bu	CAS-No.: 68937-96-2 EC-No.: 273-103-3	(6 ≤ C < 100) Skin Sens. 1B; H317

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 general	: If you feel unwell, seek medical advice.
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.
Self protection of the first-aiders	: First aid workers will be equipped with suitable personal protective equipment.

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.
Unsuitable extinguishing media	: Do not use a water jet since it may cause the fire to spread.

5.2. Special hazards arising from the substance or mixture

Fire hazard	: No fire hazard.
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Explosion hazard	: No direct explosion hazard.
Hazardous decomposition products in case of fire	: Toxic fumes may be released.

5.3. Advice for firefighters

Precautionary measures fire	: Exercise caution when fighting any chemical fire.
Firefighting instructions	: Use water spray or fog for cooling exposed containers. Do not enter fire area without proper protective equipment, including respiratory protection.
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

General measures	: Avoid spilling the product, as this might cause falls. Stop leak if safe to do so. Notify authorities if product enters sewers or public waters. Absorb spillage to prevent material damage.
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For non-emergency personnel

Protective equipment	: Wear recommended personal protective equipment.
Emergency procedures	: Ventilate spillage area.

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".
Emergency procedures	: Evacuate unnecessary personnel. Stop leak if safe to do so.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment	: Absorb spilled material with sand or earth. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Stop leak without risks if possible.
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

Additional hazards when processed	: Not expected to present a significant hazard under anticipated conditions of normal use.
Precautions for safe handling	: Ensure good ventilation of the work station. Wear personal protective equipment. Avoid contact with skin and eyes.
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

Technical measures	: Provide local exhaust or general room ventilation.
Storage conditions	: Keep cool. Protect from sunlight.
Storage temperature	: ≤ 40 °C
Storage area	: Store in a well-ventilated place. Store away from heat.
Special rules on packaging	: Keep only in original container. Store in a closed container.
Packaging materials	: Always store product in container of same material as original container.

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7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Exposure controls

Appropriate engineering controls

Appropriate engineering controls:

Ensure good ventilation of the work station.

Personal protection equipment

Personal protective equipment:

Gloves. Safety glasses. Protective clothing.

Personal protective equipment symbol(s):



Eye and face protection

Eye protection:

Safety glasses

Eye protection

Type	Field of application	Characteristics	Standard
Safety glasses	Droplet	clear	EN 166

Skin protection

Skin and body protection:

Wear suitable protective clothing

Hand protection:

Protective gloves

Hand protection

Type	Material	Permeation	Thickness (mm)	Penetration	Standard
Reusable gloves	Nitrile rubber (NBR)	6 (> 480 minutes)	>0.35		EN ISO 374

Respiratory protection

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

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 : Yellow-brown.

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Odour	: Not available
Odour threshold	: Not available
Melting point	: Not applicable
Freezing point	: -42 °C (ASTM D7346)
Boiling point	: Not available
Flammability	: Non flammable.
Lower explosion limit	: Not available
Upper explosion limit	: Not available
Flash point	: > 218 °C (ASTM D92)
Auto-ignition temperature	: Not available
Decomposition temperature	: Not available
pH	: Not available
Viscosity, kinematic	: 680 mm ² /s @ 40°C (ASTM D7042)
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	: 853 kg/m ³ @ 15°C (ASTM D4052)
Relative density	: Not available
Relative vapour density at 20°C	: Not available
Particle characteristics	: Not applicable

9.2. Other information

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

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 (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
LD50 dermal (rat)	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)

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1-decene,homopolymer,hydrogenated (68037-01-4)	
LC50 inhalation (rat) (Dust/Mist - mg/l/4h)	> 5.2 mg/l/4h
Polysulphides, di-tert-Bu (68937-96-2)	
LD50 oral (rat)	> 2000 mg/kg 401 Acute Oral Toxicity
LD50 dermal (rat)	> 2000 mg/kg 402 Acute Dermal Toxicity
Polysulfides, di-tert-dodecyl (68425-15-0)	
LD50 dermal (rat)	> 2000 mg/kg 402 Acute Dermal Toxicity
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 (subacute, oral, animal/male, 28 days)	6245 mg/kg bodyweight
NOAEL (oral, rat, 90 days)	4159.4 mg/kg bodyweight/day
Polysulphides, di-tert-Bu (68937-96-2)	
NOAEL (oral, rat, 90 days)	100 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity Study in Rodents), Guideline: EU Method B.7 (Repeated Dose (28 Days) Toxicity (Oral))
Polysulfides, di-tert-dodecyl (68425-15-0)	
NOAEL (subchronic, oral, 90 days)	1000 mg/kg bodyweight/day
Aspiration hazard	: Not classified
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Viscosity, kinematic	680 mm²/s @ 40°C (ASTM D7042)
1-decene,homopolymer,hydrogenated (68037-01-4)	
Viscosity, kinematic	46000000 mm²/s @40°C
Polysulphides, di-tert-Bu (68937-96-2)	
Viscosity, kinematic	716.19 mm²/s @20°C

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

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1-decene,homopolymer,hydrogenated (68037-01-4)	
LC50 - Fish [1]	> 1000 mg/l Rainbow trout
EC50 - Crustacea [1]	> 1000 mg/l Daphnia magna
EC50 72h - Algae [1]	> 1000 mg/l Scenedesmus quadricauda
NOEC chronic crustacea	125 mg/l Daphnia magna (21d)
NOEC chronic algae	> 1000 mg/l Scenedesmus quadricauda (3h)

Polysulphides, di-tert-Bu (68937-96-2)	
LC50 - Fish [1]	0.088 mg/l Danio rerio
EC50 - Crustacea [1]	63 mg/l Daphnia magna
EC50 72h - Algae [1]	> 100 mg/l

Polysulfides, di-tert-dodecyl (68425-15-0)	
EC50 72h - Algae [1]	> 100 mg/l Raphidocelis subcapitata
NOEC chronic fish	> 0.00084 mg/l Pimephales promelas (32d)

12.2. Persistence and degradability

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Persistence and degradability	Rapidly degradable

1-decene,homopolymer,hydrogenated (68037-01-4)	
Persistence and degradability	Not readily biodegradable.
Biodegradation	2 % OECD TG 301 D (28d)

Polysulphides, di-tert-Bu (68937-96-2)	
Persistence and degradability	Not readily biodegradable.
Biodegradation	13 % OECD TG 301 B (28d)

Polysulfides, di-tert-dodecyl (68425-15-0)	
Persistence and degradability	Not readily biodegradable.
Biodegradation	0 % OECD 301F (28d)

12.3. Bioaccumulative potential

1-decene,homopolymer,hydrogenated (68037-01-4)	
Partition coefficient n-octanol/water (Log Pow)	> 6.5 @ 20°C

Polysulphides, di-tert-Bu (68937-96-2)	
Bioconcentration factor (BCF REACH)	188
Partition coefficient n-octanol/water (Log Pow)	5.6

Polysulfides, di-tert-dodecyl (68425-15-0)	
Partition coefficient n-octanol/water (Log Pow)	> 6.2

12.4. Mobility in soil

1-decene,homopolymer,hydrogenated (68037-01-4)	
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	> 6.2

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Polysulfides, di-tert-dodecyl (68425-15-0)

Organic Carbon Normalized Adsorption Coefficient (Log Koc)	8.5
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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

Regional waste regulation	: Disposal must be done according to official regulations.
Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions.
Sewage disposal recommendations	: Disposal must be done according to official regulations.
Product/Packaging disposal recommendations	: Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation. Disposal must be done according to official regulations.
Additional information	: Do not re-use empty containers.
European List of Waste (LoW, EC 2000/532)	: 13 02 06* - synthetic engine, gear and lubricating oils

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
14.4. Packing group				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.5. Environmental hazards				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
No supplementary information available				

14.6. Special precautions for user

Overland transport

Not applicable

Transport by sea

Not applicable

Air transport

Not applicable

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Inland waterway transport

Not applicable

Rail transport

Not applicable

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

EU-Regulations

REACH Annex XVII (Restriction List)

Contains no substance(s) listed on REACH Annex XVII (Restriction Conditions)

REACH Annex XIV (Authorisation List)

Contains no substance(s) listed on REACH Annex XIV (Authorisation List)

REACH Candidate List (SVHC)

Contains no substance(s) listed on the REACH Candidate List

PIC Regulation (Prior Informed Consent)

Contains no substance(s) listed on the PIC list (Regulation EU 649/2012 concerning the export and import of hazardous chemicals)

POP Regulation (Persistent Organic Pollutants)

Contains no substance(s) listed on the POP list (Regulation EU 2019/1021 on persistent organic pollutants)

Ozone Regulation (2024/590)

Contains no substance(s) listed on the Ozone Depletion list (Regulation EU 2024/590 on substances that deplete the ozone layer)

Council Regulation (EC) for the control of dual-use items

Contains no substance subject to the COUNCIL REGULATION (EC) for the control of dual-use items

Explosives Precursors Regulation (EU 2019/1148)

Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

Drug Precursors Regulation (EC 273/2004)

Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Indication of changes

Section	Changed item	Comments
	Revision date	Modified
	Supersedes	Modified
1.1	Name	Added
2.3	Other hazards not contributing to the classification	Removed
4.1	First-aid measures for first aider	Added

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Indication of changes		
Section	Changed item	Comments
4.1	First-aid measures general	Added
5.2	Explosion hazard	Added
5.2	Fire hazard	Added
5.3	Firefighting instructions	Modified
6.1	Emergency procedures	Added
6.1	General measures	Modified
6.3	For containment	Modified
7.1	Additional hazards when processed	Added
7.1	Handling temperature	Removed
7.2	Packaging materials	Added
7.2	Storage conditions	Modified
9	Viscosity, kinematic	Modified
9	Freezing point	Modified
9	Flash point	Modified
9	Density	Modified
13.1	Sewage disposal recommendations	Added
13.1	Additional information	Added
13.1	Regional waste regulation	Added
13.1	Waste disposal recommendations	Modified

Abbreviations and acronyms:	
ACGIH	American Conference of Government Industrial Hygienists
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
BLV	Biological limit value
BOD	Biochemical oxygen demand (BOD)
CAS-No.	Chemical Abstract Service number
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
COD	Chemical oxygen demand (COD)
CSA	Chemical safety assessment
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC-No.	European Community number
EC50	Median effective concentration
ED	Endocrine disruptor
EN	European Standard

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Abbreviations and acronyms:

EWC	European waste catalogue
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
Log Kow	Partition coefficient n-octanol/water (Log Kow)
Log Pow	Partition coefficient n-octanol/water (Log Pow)
MAK	maximum workplace concentration
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
N.O.S.	Not Otherwise Specified
OECD	Organisation for Economic Co-operation and Development
OEL	Occupational Exposure Limit
OSHA	Occupational Safety Health Administration
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
PPE	Personal protection equipment
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
STP	Sewage treatment plant
TF	Technical function
ThOD	Theoretical oxygen demand (ThOD)
TLM	Median Tolerance Limit
TWA	Time Weighted Average
VOC	Volatile Organic Compounds
vPvB	Very Persistent and Very Bioaccumulative
UFI	Unique Formula Identifier

Full text of H- and EUH-statements:

Aquatic Chronic 3	Hazardous to the aquatic environment – Chronic Hazard, Category 3
Skin Sens. 1B	Skin sensitisation, category 1B
H317	May cause an allergic skin reaction.
H412	Harmful to aquatic life with long lasting effects.
EUH208	Contains Polysulphides, di-tert-Bu(68937-96-2), Polysulfides, di-tert-dodecyl(68425-15-0). May produce an allergic reaction.
EUH210	Safety data sheet available on request.

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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.