



20042 FULLY SYNTHETIC HYPOID GEAR OIL (GL5) LS SAE 75W-90 1L

Liqui Moly GmbH

Chemwatch Hazard Alert Code: 2

Chemwatch: 52-9731

Version No: 4.1.1.1

Safety Data Sheet according to OSHA HazCom Standard (2012) requirements

Issue Date: 01/11/2019

Print Date: 26/03/2020

S.GHS.USA.EN

SECTION 1 IDENTIFICATION

Product Identifier

Product name	20042 FULLY SYNTHETIC HYPOID GEAR OIL (GL5) LS SAE 75W-90 1L
Synonyms	Item No: 20042
Other means of identification	Not Available

Recommended use of the chemical and restrictions on use

Relevant identified uses	Synthetic oil. Gear lubricant. Use according to manufacturer's directions.
--------------------------	---

Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party

Registered company name	Liqui Moly GmbH
Address	Jerg-Wieland-Strasse 4 Ulm D-89081 Germany
Telephone	+49 731 1420 0
Fax	+49 731 1420 82
Website	http://www.liqui-moly.com/
Email	Not Available

Emergency phone number

Association / Organisation	INFOTRAC
Emergency telephone numbers	+1800 535 5053 (US, Canada & Mexico)
Other emergency telephone numbers	+1 352 323 3500 (International)

SECTION 2 HAZARD(S) IDENTIFICATION

Classification of the substance or mixture

CHEMWATCH HAZARD RATINGS

	Min	Max
Flammability	1	Blue
Toxicity	0	
Body Contact	2	Blue
Reactivity	1	Blue
Chronic	2	Blue

0 = Minimum
1 = Low
2 = Moderate
3 = High
4 = Extreme

NFPA 704 diamond



Note: The hazard category numbers found in GHS classification in section 2 of this SDSs are NOT to be used to fill in the NFPA 704 diamond. Blue = Health Red = Fire Yellow = Reactivity White = Special (Oxidizer or water reactive substances)

Classification	Eye Irritation Category 2A, Skin Sensitizer Category 1, Acute Aquatic Hazard Category 3, Chronic Aquatic Hazard Category 3
----------------	--

Label elements

Hazard pictogram(s)	
---------------------	--

SIGNAL WORD	WARNING
-------------	----------------

Hazard statement(s)

H319	Causes serious eye irritation.
H317	May cause an allergic skin reaction.
H412	Harmful to aquatic life with long lasting effects.

Continued...

Hazard(s) not otherwise classified

Not Applicable

Precautionary statement(s) Prevention

P280	Wear protective gloves/protective clothing/eye protection/face protection.
P261	Avoid breathing mist/vapours/spray.
P273	Avoid release to the environment.
P272	Contaminated work clothing should not be allowed out of the workplace.

Precautionary statement(s) Response

P321	Specific treatment (see advice on this label).
P363	Wash contaminated clothing before reuse.
P302+P352	IF ON SKIN: Wash with plenty of water and soap.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Precautionary statement(s) Storage

Not Applicable

Precautionary statement(s) Disposal

P501	Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation.
-------------	--

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS**Substances**

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name
68037-01-4	20-30	<u>1-decene homopolymer, hydrogenated</u>
Not Available	1-10	<u>mineral oil</u>
68937-96-2	2.5-5	<u>di-tert-butyl polysulfides</u>
Not Available	1-2.5	<u>bis(2-methylpentan-2-yl)dithiophosphoric acid/ amines</u>
Not Available	1-1.5	reaction product of alcohols, C14-18,C18 unsat., esterified with phosphorus
Not Available		pentoxide and salted with amines, C12-14-tert-alkyl.

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

SECTION 4 FIRST-AID MEASURES**Description of first aid measures**

Eye Contact	<p>If this product comes in contact with the eyes:</p> <ul style="list-style-type: none"> ▶ Wash out immediately with fresh running water. ▶ Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids. ▶ Seek medical attention without delay; if pain persists or recurs seek medical attention. ▶ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	<p>If skin contact occurs:</p> <ul style="list-style-type: none"> ▶ Immediately remove all contaminated clothing, including footwear. ▶ Flush skin and hair with running water (and soap if available). ▶ Seek medical attention in event of irritation.
Inhalation	<ul style="list-style-type: none"> ▶ If fumes, aerosols or combustion products are inhaled remove from contaminated area. ▶ Other measures are usually unnecessary.
Ingestion	<ul style="list-style-type: none"> ▶ Immediately give a glass of water. ▶ First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.

Most important symptoms and effects, both acute and delayed

See Section 11

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5 FIRE-FIGHTING MEASURES**Extinguishing media**

- ▶ Foam.
- ▶ Dry chemical powder.
- ▶ BCF (where regulations permit).
- ▶ Carbon dioxide.

20042 FULLY SYNTHETIC HYPOID GEAR OIL (GL5) LS SAE 75W-90 1L

Special hazards arising from the substrate or mixture

Fire Incompatibility	<ul style="list-style-type: none"> Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result
----------------------	--

Special protective equipment and precautions for fire-fighters

Fire Fighting	<ul style="list-style-type: none"> Alert Fire Brigade and tell them location and nature of hazard. Wear full body protective clothing with breathing apparatus. Prevent, by any means available, spillage from entering drains or water course. Use water delivered as a fine spray to control fire and cool adjacent area.
Fire/Explosion Hazard	<ul style="list-style-type: none"> Combustible. Slight fire hazard when exposed to heat or flame. Heating may cause expansion or decomposition leading to violent rupture of containers. On combustion, may emit toxic fumes of carbon monoxide (CO). <p>Combustion products include: carbon dioxide (CO₂) nitrogen oxides (NO_x) phosphorus oxides (PO_x) sulfur oxides (SO_x) other pyrolysis products typical of burning organic material. May emit corrosive fumes.</p>

SECTION 6 ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

See section 8

Environmental precautions

See section 12

Methods and material for containment and cleaning up

Minor Spills	<p>Slippery when spilt.</p> <ul style="list-style-type: none"> Remove all ignition sources. Clean up all spills immediately. Avoid breathing vapours and contact with skin and eyes. Control personal contact with the substance, by using protective equipment.
Major Spills	<p>Slippery when spilt. Moderate hazard.</p> <ul style="list-style-type: none"> Clear area of personnel and move upwind. Alert Fire Brigade and tell them location and nature of hazard. Wear breathing apparatus plus protective gloves.

Personal Protective Equipment advice is contained in Section 8 of the SDS.

SECTION 7 HANDLING AND STORAGE

Precautions for safe handling

Safe handling	<ul style="list-style-type: none"> DO NOT allow clothing wet with material to stay in contact with skin Electrostatic discharge may be generated during pumping - this may result in fire. Ensure electrical continuity by bonding and grounding (earthing) all equipment. Restrict line velocity during pumping in order to avoid generation of electrostatic discharge (≤ 1 m/sec until fill pipe submerged to twice its diameter, then ≤ 7 m/sec). Avoid splash filling. Avoid all personal contact, including inhalation. Wear protective clothing when risk of exposure occurs. Use in a well-ventilated area. Prevent concentration in hollows and sumps.
Other information	<ul style="list-style-type: none"> Store in original containers. Keep containers securely sealed. No smoking, naked lights or ignition sources. Store in a cool, dry, well-ventilated area.

Conditions for safe storage, including any incompatibilities

Suitable container	<ul style="list-style-type: none"> Metal can or drum Packaging as recommended by manufacturer. Check all containers are clearly labelled and free from leaks.
Storage incompatibility	<ul style="list-style-type: none"> Avoid reaction with oxidising agents

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

OCCUPATIONAL EXPOSURE LIMITS (OEL)

INGREDIENT DATA

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
US NIOSH Recommended Exposure Limits (RELs)	mineral oil	Heavy mineral oil mist, Paraffin oil mist, White mineral oil mist	5 mg/m ³	10 mg/m ³	Not Available	Not Available

Continued...

20042 FULLY SYNTHETIC HYPOID GEAR OIL (GL5) LS SAE 75W-90 1L

US OSHA Permissible Exposure Levels (PELs) - Table Z1	mineral oil	Oil mist, mineral	5 mg/m ³	Not Available	Not Available	Not Available
US ACGIH Threshold Limit Values (TLV)	mineral oil	Mineral oil, excluding metal working fluids - Pure, highly and severely refined (Inhalable particulate matter)	5 mg/m ³	Not Available	Not Available	URT irr

EMERGENCY LIMITS

Ingredient	Material name	TEEL-1	TEEL-2	TEEL-3
1-decene homopolymer, hydrogenated	Decene, 1-, homopolymer, hydrogenated	30 mg/m ³	330 mg/m ³	2,000 mg/m ³
mineral oil	Mineral oil, heavy or light; (paraffin oil; Deobase, deodorized; heavy paraffinic; heavy naphthenic); distillates; includes 64741-53-3, 64741-88-4, 8042-47-5, 8012-95-1; 64742-54-7	140 mg/m ³	1,500 mg/m ³	8,900 mg/m ³

Ingredient	Original IDLH	Revised IDLH
1-decene homopolymer, hydrogenated	Not Available	Not Available
mineral oil	2,500 mg/m ³	Not Available
di-tert-butyl polysulfides	Not Available	Not Available
bis(2-methylpentan-2-yl)dithiophosphoric acid/ amines	Not Available	Not Available


OCCUPATIONAL EXPOSURE BANDING

Ingredient	Occupational Exposure Band Rating	Occupational Exposure Band Limit
di-tert-butyl polysulfides	D	> 0.1 to ≤ 1 ppm
bis(2-methylpentan-2-yl)dithiophosphoric acid/ amines	E	≤ 0.01 mg/m ³

Notes:

Occupational exposure banding is a process of assigning chemicals into specific categories or bands based on a chemical's potency and the adverse health outcomes associated with exposure. The output of this process is an occupational exposure band (OEB), which corresponds to a range of exposure concentrations that are expected to protect worker health.

Exposure controls

Appropriate engineering controls	<p>Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.</p> <p>The basic types of engineering controls are:</p> <p>Process controls which involve changing the way a job activity or process is done to reduce the risk.</p> <p>Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment.</p>
Personal protection	
Eye and face protection	<ul style="list-style-type: none"> ▶ Safety glasses with side shields. ▶ Chemical goggles. ▶ Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task.
Skin protection	See Hand protection below
Hands/feet protection	<ul style="list-style-type: none"> ▶ Wear chemical protective gloves, e.g. PVC. ▶ Wear safety footwear or safety gumboots, e.g. Rubber <p>NOTE:</p> <ul style="list-style-type: none"> ▶ The material may produce skin sensitisation in predisposed individuals. Care must be taken, when removing gloves and other protective equipment, to avoid all possible skin contact. ▶ Contaminated leather items, such as shoes, belts and watch-bands should be removed and destroyed. <p>The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.</p> <p>The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and has to be observed when making a final choice.</p> <p>Personal hygiene is a key element of effective hand care.</p>
Body protection	See Other protection below
Other protection	<ul style="list-style-type: none"> ▶ Overalls. ▶ P.V.C. apron. ▶ Barrier cream.

Respiratory protection

Type A-P Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

Where the concentration of gas/particulates in the breathing zone, approaches or exceeds the "Exposure Standard" (or ES), respiratory protection is required. Degree of protection varies with both face-piece and Class of filter; the nature of protection varies with Type of filter.

Required Minimum Protection Factor	Half-Face Respirator	Full-Face Respirator	Powered Air Respirator
up to 10 x ES	A-AUS P2	-	A-PAPR-AUS / Class 1 P2
up to 50 x ES	-	A-AUS / Class 1 P2	-
up to 100 x ES	-	A-2 P2	A-PAPR-2 P2 ^

20042 FULLY SYNTHETIC HYPOID GEAR OIL (GL5) LS SAE 75W-90 1L

^ - Full-face

A(All classes) = Organic vapours, B AUS or B1 = Acid gasses, B2 = Acid gas or hydrogen cyanide(HCN), B3 = Acid gas or hydrogen cyanide(HCN), E = Sulfur dioxide(SO2), G = Agricultural chemicals, K = Ammonia(NH3), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 degC)

- ▶ Cartridge respirators should never be used for emergency ingress or in areas of unknown vapour concentrations or oxygen content.
- ▶ The wearer must be warned to leave the contaminated area immediately on detecting any odours through the respirator. The odour may indicate that the mask is not functioning properly, that the vapour concentration is too high, or that the mask is not properly fitted. Because of these limitations, only restricted use of cartridge respirators is considered appropriate.
- ▶ Cartridge performance is affected by humidity. Cartridges should be changed after 2 hr of continuous use unless it is determined that the humidity is less than 75%, in which case, cartridges can be used for 4 hr. Used cartridges should be discarded daily, regardless of the length of time used

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Amber colour liquid with mild odour; not miscible with water.		
Physical state	Liquid	Relative density (Water = 1)	0.87
Odour	Not Available	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	Not Available
pH (as supplied)	Not Applicable	Decomposition temperature	Not Available
Melting point / freezing point (°C)	Not Available	Viscosity (cSt)	185 (40C), 25.3 (100C)
Initial boiling point and boiling range (°C)	Not Available	Molecular weight (g/mol)	Not Applicable
Flash point (°C)	136	Taste	Not Available
Evaporation rate	Not Available	Explosive properties	Not Available
Flammability	Not Applicable	Oxidising properties	Not Available
Upper Explosive Limit (%)	Not Available	Surface Tension (dyn/cm or mN/m)	Not Available
Lower Explosive Limit (%)	Not Available	Volatile Component (%vol)	Not Available
Vapour pressure (kPa)	Not Available	Gas group	Not Available
Solubility in water	Immiscible	pH as a solution (1%)	Not Available
Vapour density (Air = 1)	Not Available	VOC g/L	Not Available

SECTION 10 STABILITY AND REACTIVITY

Reactivity	See section 7
Chemical stability	<ul style="list-style-type: none"> ▶ Unstable in the presence of incompatible materials. ▶ Product is considered stable. ▶ Hazardous polymerisation will not occur.
Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7
Incompatible materials	See section 7
Hazardous decomposition products	See section 5

SECTION 11 TOXICOLOGICAL INFORMATION

Information on toxicological effects

Inhaled	The material is not thought to produce adverse health effects or irritation of the respiratory tract (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting. Inhalation hazard is increased at higher temperatures.	
Ingestion	The material has NOT been classified by EC Directives or other classification systems as "harmful by ingestion". This is because of the lack of corroborating animal or human evidence.	
Skin Contact	The liquid may be able to be mixed with fats or oils and may degrease the skin, producing a skin reaction described as non-allergic contact dermatitis. The material is unlikely to produce an irritant dermatitis as described in EC Directives. Open cuts, abraded or irritated skin should not be exposed to this material. Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.	
Eye	This material can cause eye irritation and damage in some persons.	
Chronic	Skin contact with the material is more likely to cause a sensitisation reaction in some persons compared to the general population.	
20042 FULLY SYNTHETIC HYPOID GEAR OIL (GL5) LS SAE 75W-90 1L	TOXICITY	IRRITATION
	Not Available	Not Available
1-decene homopolymer, hydrogenated	TOXICITY	IRRITATION
	dermal (rat) LD50: >2000 mg/kg ^[1]	Eye*(rabbit):0-4/110.0-nonirritant

20042 FULLY SYNTHETIC HYPOID GEAR OIL (GL5) LS SAE 75W-90 1L

	Inhalation (rat) LC50: 0.9 mg/l4 h ^[1]	Skin**(rabbit)-0.5/8.0-nonirritant
	Oral (rat) LD50: >2000 mg/kg ^[1]	
mineral oil	TOXICITY	IRRITATION
	Not Available	Not Available
di-tert-butyl polysulfides	TOXICITY	IRRITATION
	Oral (rat) LD50: >5000 mg/kg ^[2]	Eye (rabbit): slight;y irritating Skin (rabbit): slight;y irritating
bis(2-methylpentan-2-yl)dithiophosphoric acid/ amines	TOXICITY	IRRITATION
	Not Available	Not Available
Legend:	1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2. * Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances	

1-DECENE HOMOPOLYMER, HYDROGENATED	For poly-alpha-olefins (PAOs): PAOs are highly branched, isoparaffinic chemicals produced by oligomerisation of 1-octene, 1-decene and/or 1-dodecene. The crude polyalphaolefin mixture is then distilled into appropriate product fractions to meet specific viscosity specifications and hydrogenated. In existing data, there appears to be no data to show that these structural analogs cause health effects. In addition, there is evidence in the literature that alkanes with 30 or more carbon atoms are unlikely to be absorbed when given by mouth. (estimated) * Evidence of conjunctival changes ** No evidence of tissue damage [Inland Vacuum Industries] ^ US EPA HPV Challenge program October 2002
MINERAL OIL	Toxicity and Irritation data for petroleum-based mineral oils are related to chemical components and vary as does the composition and source of the original crude. A small but definite risk of occupational skin cancer occurs in workers exposed to persistent skin contamination by oils over a period of years. This risk has been attributed to the presence of certain polycyclic aromatic hydrocarbons (PAH) (typified by benz[a]pyrene). Petroleum oils which are solvent refined/extracted or severely hydrotreated, contain very low concentrations of both.
DI-TERT-BUTYL POLYSULFIDES	For di-tertiary-(C9-12) alkyl polysulfides: existing information shows that these substances show a low level of toxicity to toxicity. They have not been shown to cause genetic damage or developmental toxicity. Guinea pig maximization test: not sensitising The material seems to be a sensitizer at challenge but not at rechallenge Ames test: negative with and without metabolic activation * IUCLID Data
BIS(2-METHYLPENTAN-2-YL)DITHIOPHOSPHORIC ACID/ AMINES	These rat oral LD50 is greater than 10 ml/kg bw. No mortality occurred. No signs of systemic toxicity, or behavioral changes were reported during the study, and no abnormalities were noted at necropsy. In a second study this substance shows evidence of toxicity when tested in accordance with OECD 401. The dermal route for acute toxicity is appropriate if the physicochemical properties suggest there is potential for a significant rate of absorption through the skin. The scientific literature regarding dermal toxicity states that for those substances with a log Kow greater than 5 there is very limited potential for dermal absorption (e.g., 10% absorption) (Annals of Occupational Hygiene, 47(8):641-652, 2003). The test material has a Log Kow greater than 7.1 (small portion < 0.3) thereby demonstrating that it has very limited dermal absorption potential. In contrast, oral absorption can be relatively fast due to contact surface areas in the GI tract resulting in a peak concentration in the body, and GI tract has been regarded as the route resulting in higher bioavailability. Skin sensitisation: EC3 value was determined to be 9.39%. Per the CLP guidance, substances are to be classified as skin sensitization 1A when the EC3 value is less than 2% and are to be classified as skin sensitization 1B when the EC3 value is greater than 2%. Repeat dose toxicity: Oral administration of the test substance to rats by gavage in accordance with OECD Test Guideline 407 (1995) produces treatment related microscopic changes in the adrenal glands of the male and female rats and kidneys of the male rats of the 150 and 500 mg/kg/day groups. The adrenal gland changes are accompanied by an increase in adrenal weight only at the high doses level. The male kidney effects are accompanied by an increase in hyaline droplets which is consistent with male rat species specific effect resulting from the excessive accumulation of a2-microglobulin in renal proximal tubular epithelial cells. Microscopic changes also are present in the stomach of the male and female rats of the 500 mg/kg/day group and these changes were possibly treatment related. * REACH Dossier No significant acute toxicological data identified in literature search.
DI-TERT-BUTYL POLYSULFIDES & BIS(2-METHYLPENTAN-2-YL)DITHIOPHOSPHORIC ACID/ AMINES	The following information refers to contact allergens as a group and may not be specific to this product. Contact allergies quickly manifest themselves as contact eczema, more rarely as urticaria or Quincke's oedema. The pathogenesis of contact eczema involves a cell-mediated (T lymphocytes) immune reaction of the delayed type. Other allergic skin reactions, e.g. contact urticaria, involve antibody-mediated immune reactions. The significance of the contact allergen is not simply determined by its sensitisation potential: the distribution of the substance and the opportunities for contact with it are equally important.

Acute Toxicity	✗	Carcinogenicity	✗
Skin Irritation/Corrosion	✗	Reproductivity	✗
Serious Eye Damage/Irritation	✓	STOT - Single Exposure	✗
Respiratory or Skin sensitisation	✓	STOT - Repeated Exposure	✗
Mutagenicity	✗	Aspiration Hazard	✗

Legend: ✗ – Data either not available or does not fill the criteria for classification
 ✓ – Data available to make classification

SECTION 12 ECOLOGICAL INFORMATION

Toxicity

20042 FULLY SYNTHETIC HYPOID GEAR OIL (GL5) LS SAE 75W-90 1L	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	Not Available	Not Available	Not Available	Not Available	Not Available
1-decene homopolymer, hydrogenated	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	LC50	96	Fish	0.121mg/L	3

Continued...

20042 FULLY SYNTHETIC HYPOID GEAR OIL (GL5) LS SAE 75W-90 1L

	EC50	96	Algae or other aquatic plants	0.121mg/L	3
mineral oil	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	Not Available	Not Available	Not Available	Not Available	Not Available
di-tert-butyl polysulfides	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	LC50	96	Fish	>0.088mg/L	2
	EC50	48	Crustacea	0.24mg/L	2
	EC50	72	Algae or other aquatic plants	0.299mg/L	2
	NOEC	96	Fish	>=0.088mg/L	2
bis(2-methylpentan-2-yl)dithiophosphoric acid/ amines	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	Not Available	Not Available	Not Available	Not Available	Not Available
Legend: Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPIWIN Suite V3.12 (QSAR) - Aquatic Toxicity Data (Estimated) 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data					

DO NOT discharge into sewer or waterways.

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
1-decene homopolymer, hydrogenated	LOW	LOW

Bioaccumulative potential

Ingredient	Bioaccumulation
1-decene homopolymer, hydrogenated	HIGH (LogKOW = 5.116)

Mobility in soil

Ingredient	Mobility
1-decene homopolymer, hydrogenated	LOW (KOC = 1724)

SECTION 13 DISPOSAL CONSIDERATIONS

Waste treatment methods

Product / Packaging disposal	<p>Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. In some areas, certain wastes must be tracked.</p> <p>A Hierarchy of Controls seems to be common - the user should investigate:</p> <ul style="list-style-type: none"> ▶ Reduction ▶ Reuse ▶ Recycling ▶ Disposal (if all else fails) <p>This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use.</p> <ul style="list-style-type: none"> ▶ DO NOT allow wash water from cleaning or process equipment to enter drains. ▶ It may be necessary to collect all wash water for treatment before disposal. ▶ In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first. ▶ Where in doubt contact the responsible authority. ▶ Recycle wherever possible or consult manufacturer for recycling options. ▶ Consult State Land Waste Authority for disposal. ▶ Bury or incinerate residue at an approved site. ▶ Recycle containers if possible, or dispose of in an authorised landfill.
------------------------------	--

SECTION 14 TRANSPORT INFORMATION

Labels Required

Marine Pollutant	NO
------------------	----

Land transport (DOT): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

Continued...

SECTION 15 REGULATORY INFORMATION**Safety, health and environmental regulations / legislation specific for the substance or mixture****1-DECENE HOMOPOLYMER, HYDROGENATED IS FOUND ON THE FOLLOWING REGULATORY LISTS**

US DOE Temporary Emergency Exposure Limits (TEELs)

US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

US TSCA Chemical Substance Inventory - Interim List of Active Substances

MINERAL OIL IS FOUND ON THE FOLLOWING REGULATORY LISTS

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs

US - Alaska Limits for Air Contaminants

US - California Permissible Exposure Limits for Chemical Contaminants

US - Hawaii Air Contaminant Limits

US - Idaho - Limits for Air Contaminants

US - Idaho Toxic Air Pollutants Non- Carcinogenic Increments - Occupational Exposure Limits

US - Michigan Exposure Limits for Air Contaminants

US - Minnesota Permissible Exposure Limits (PELs)

US - Oregon Permissible Exposure Limits (Z-1)

US - Tennessee Occupational Exposure Limits - Limits For Air Contaminants

US - Vermont Permissible Exposure Limits Table Z-1-A Final Rule Limits for Air Contaminants

US - Vermont Permissible Exposure Limits Table Z-1-A Transitional Limits for Air Contaminants

US - Washington Permissible exposure limits of air contaminants

US - Wyoming Toxic and Hazardous Substances Table Z1 Limits for Air Contaminants

US ACGIH Threshold Limit Values (TLV)

US AIHA Workplace Environmental Exposure Levels (WEELs)

US DOE Temporary Emergency Exposure Limits (TEELs)

US NIOSH Recommended Exposure Limits (RELs)

US OSHA Permissible Exposure Levels (PELs) - Table Z1

DI-TERT-BUTYL POLYSULFIDES IS FOUND ON THE FOLLOWING REGULATORY LISTS

US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

US TSCA Chemical Substance Inventory - Interim List of Active Substances

BIS(2-METHYLPENTAN-2-YL)DITHIOPHOSPHORIC ACID/ AMINES IS FOUND ON THE FOLLOWING REGULATORY LISTS

Not Applicable

Federal Regulations**Superfund Amendments and Reauthorization Act of 1986 (SARA)****SECTION 311/312 HAZARD CATEGORIES**

Flammable (Gases, Aerosols, Liquids, or Solids)	No
Gas under pressure	No
Explosive	No
Self-heating	No
Pyrophoric (Liquid or Solid)	No
Pyrophoric Gas	No
Corrosive to metal	No
Oxidizer (Liquid, Solid or Gas)	No
Organic Peroxide	No
Self-reactive	No
In contact with water emits flammable gas	No
Combustible Dust	No
Carcinogenicity	No
Acute toxicity (any route of exposure)	No
Reproductive toxicity	No
Skin Corrosion or Irritation	No
Respiratory or Skin Sensitization	Yes
Serious eye damage or eye irritation	Yes
Specific target organ toxicity (single or repeated exposure)	No
Aspiration Hazard	No
Germ cell mutagenicity	No
Simple Asphyxiant	No
Hazards Not Otherwise Classified	No

US. EPA CERCLA HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES (40 CFR 302.4)

None Reported

State Regulations**US. CALIFORNIA PROPOSITION 65**

None Reported

National Inventory Status

National Inventory	Status
Australia - AICS	Yes
Canada - DSL	Yes
Canada - NDSL	No (1-decene homopolymer, hydrogenated; di-tert-butyl polysulfides)

Continued...

20042 FULLY SYNTHETIC HYPOID GEAR OIL (GL5) LS SAE 75W-90 1L

China - IECSC	Yes
Europe - EINEC / ELINCS / NLP	Yes
Japan - ENCS	No (di-tert-butyl polysulfides)
Korea - KECI	Yes
New Zealand - NZIoC	Yes
Philippines - PICCS	Yes
USA - TSCA	Yes
Taiwan - TCSI	Yes
Mexico - INSQ	No (di-tert-butyl polysulfides)
Vietnam - NCI	Yes
Russia - ARIPS	Yes
Legend:	Yes = All CAS declared ingredients are on the inventory No = One or more of the CAS listed ingredients are not on the inventory and are not exempt from listing(see specific ingredients in brackets)

SECTION 16 OTHER INFORMATION

Revision Date	01/11/2019
Initial Date	17/08/2015

SDS Version Summary

Version	Issue Date	Sections Updated
3.1.1.1	31/05/2018	Acute Health (eye), Acute Health (inhaled), Acute Health (skin), Classification, Disposal, Handling Procedure, Ingredients, Personal Protection (hands/feet), Spills (major), Spills (minor)
4.1.1.1	01/11/2019	One-off system update. NOTE: This may or may not change the GHS classification

Other information

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

Definitions and abbreviations

PC—TWA: Permissible Concentration-Time Weighted Average
 PC—STEL: Permissible Concentration-Short Term Exposure Limit
 IARC: International Agency for Research on Cancer
 ACGIH: American Conference of Governmental Industrial Hygienists
 STEL: Short Term Exposure Limit
 TEEL: Temporary Emergency Exposure Limit
 IDLH: Immediately Dangerous to Life or Health Concentrations
 OSF: Odour Safety Factor
 NOAEL :No Observed Adverse Effect Level
 LOAEL: Lowest Observed Adverse Effect Level
 TLV: Threshold Limit Value
 LOD: Limit Of Detection
 OTV: Odour Threshold Value
 BCF: BioConcentration Factors
 BEI: Biological Exposure Index

This document is copyright.

Apart from any fair dealing for the purposes of private study, research, review or criticism, as permitted under the Copyright Act, no part may be reproduced by any process without written permission from CHEMWATCH.

TEL (+61 3) 9572 4700.