



## Gear HD 90

Vietnam Lubricants & Chemicals J/S Company

Chemwatch: 5155-48

Version No: 3.1.1.1

Safety Data Sheet

Chemwatch Hazard Alert Code: 1

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S.GHS.VNM.EN

### SECTION 1 IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

#### Product Identifier

Product name	Gear HD 90
Synonyms	Not Available
Other means of identification	Not Available

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

Relevant identified uses	Use according to manufacturer's directions. Gearbox and transmission oil.
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#### Details of the supplier of the safety data sheet

Registered company name	Vietnam Lubricants & Chemicals J/S Company
Address	29th Floor, Pearl Plaza building, 561 A Dien Bien Phu Street, Binh Thanh District, Ho Chi Minh City, Viet Nam
Telephone	+84 8 3513 6015
Fax	+84 8 3513 6027
Website	<a href="https://www.motul.com">https://www.motul.com</a>
Email	info@vlube.com.vn

#### Emergency telephone number

Association / Organisation	Not Available
Emergency telephone numbers	+800 24 362 255
Other emergency telephone numbers	+61 2 9186 1132

### SECTION 2 COMPOSITION / INFORMATION ON INGREDIENTS

#### Substances

See section below for composition of Mixtures

#### Mixtures

CAS No	%[weight]	Name	Chemical formula
Not Available	<0.5	long-chain alkyl amine	-
Not Available	<0.5	alkyl phosphate	-
Not Available	<0.3	alkyl dithio thiadiazole	-
Not Available	<0.3	long-chain alkyl amine	-
	balance	Ingredients determined not to be hazardous	

### SECTION 3 HAZARDS IDENTIFICATION

#### Classification of the substance or mixture

##### CHEMWATCH HAZARD RATINGS

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

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

Classification	Acute Aquatic Hazard Category 3, Chronic Aquatic Hazard Category 3
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#### Label elements

GHS label elements	Not Applicable
SIGNAL WORD	NOT APPLICABLE
<b>Hazard statement(s)</b>	
H412	Harmful to aquatic life with long lasting effects.
<b>Precautionary statement(s) Prevention</b>	
P101	If medical advice is needed, have product container or label at hand.
P102	Keep out of reach of children.
P103	Read label before use.
P273	Avoid release to the environment.

#### Precautionary statement(s) Response

Not Applicable

#### Precautionary statement(s) Storage

Not Applicable

#### Precautionary statement(s) Disposal

P501	Dispose of contents/container in accordance with local regulations.
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#### Information on toxicological effects

Inhaled	<p>Inhalation of vapours may cause drowsiness and dizziness. This may be accompanied by sleepiness, reduced alertness, loss of reflexes, lack of co-ordination, and vertigo.</p> <p>There is some evidence to suggest that the material can cause respiratory irritation in some persons. The body's response to such irritation can cause further lung damage.</p> <p>Inhalation hazard is increased at higher temperatures.</p> <p>Inhaling high concentrations of mixed hydrocarbons can cause narcosis, with nausea, vomiting and lightheadedness. Low molecular weight (C2-C12) hydrocarbons can irritate mucous membranes and cause incoordination, giddiness, nausea, vertigo, confusion, headache, appetite loss, drowsiness, tremors and stupor.</p> <p>Central nervous system (CNS) depression may include general discomfort, symptoms of giddiness, headache, dizziness, nausea, anaesthetic effects, slowed reaction time, slurred speech and may progress to unconsciousness. Serious poisonings may result in respiratory depression and may be fatal.</p> <p>Inhalation of oil droplets or aerosols may cause discomfort and may produce chemical inflammation of the lungs.</p>
Ingestion	<p>Accidental ingestion of the material may be damaging to the health of the individual.</p>
Skin Contact	<p>The liquid may be miscible 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 .</p> <p>Repeated exposure may cause skin cracking, flaking or drying following normal handling and use.</p> <p>Open cuts, abraded or irritated skin should not be exposed to this material</p> <p>The material may accentuate any pre-existing dermatitis condition</p> <p>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.</p>
Eye	<p>There is some evidence to suggest that this material can cause eye irritation and damage in some persons.</p> <p>Direct eye contact with petroleum hydrocarbons can be painful, and the corneal epithelium may be temporarily damaged. Aromatic species can cause irritation and excessive tear secretion.</p>
Chronic	<p>Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure.</p> <p>Constant or exposure over long periods to mixed hydrocarbons may produce stupor with dizziness, weakness and visual disturbance, weight loss and anaemia, and reduced liver and kidney function. Skin exposure may result in drying and cracking and redness of the skin.</p> <p>Repeated application of mildly hydrotreated oils (principally paraffinic), to mouse skin, induced skin tumours; no tumours were induced with severely hydrotreated oils.</p> <p>Oil may contact the skin or be inhaled. Extended exposure can lead to eczema, inflammation of hair follicles, pigmentation of the face and warts on the soles of the feet.</p>

#### 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"><li>► Wash out immediately with fresh running water.</li><li>► 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.</li><li>► Seek medical attention without delay; if pain persists or recurs seek medical attention.</li><li>► Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.</li></ul>
Skin Contact	<p>If skin or hair contact occurs:</p> <ul style="list-style-type: none"><li>► Flush skin and hair with running water (and soap if available).</li><li>► Seek medical attention in event of irritation.</li></ul>
Inhalation	<ul style="list-style-type: none"><li>► If fumes, aerosols or combustion products are inhaled remove from contaminated area.</li><li>► Other measures are usually unnecessary.</li></ul>
Ingestion	<ul style="list-style-type: none"><li>► If swallowed do NOT induce vomiting.</li><li>► If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.</li><li>► Observe the patient carefully.</li><li>► Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.</li><li>► Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.</li><li>► Seek medical advice.</li><li>► Avoid giving milk or oils.</li></ul>

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- ▶ Avoid giving alcohol.
- ▶ If spontaneous vomiting appears imminent or occurs, hold patient's head down, lower than their hips to help avoid possible aspiration of vomitus.

#### Indication of any immediate medical attention and special treatment needed

- ▶ Heavy and persistent skin contamination over many years may lead to dysplastic changes. Pre-existing skin disorders may be aggravated by exposure to this product.
- ▶ In general, emesis induction is unnecessary with high viscosity, low volatility products, i.e. most oils and greases.
- ▶ High pressure accidental injection through the skin should be assessed for possible incision, irrigation and/or debridement.

**NOTE:** Injuries may not seem serious at first, but within a few hours tissue may become swollen, discoloured and extremely painful with extensive subcutaneous necrosis. Product may be forced through considerable distances along tissue planes.

### SECTION 5 FIREFIGHTING MEASURES

#### Extinguishing media

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

#### Special hazards arising from the substrate or mixture

Fire Incompatibility	▶ Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result
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#### Advice for firefighters

Fire Fighting	<ul style="list-style-type: none"><li>▶ Alert Fire Brigade and tell them location and nature of hazard.</li><li>▶ Wear full body protective clothing with breathing apparatus.</li><li>▶ Prevent, by any means available, spillage from entering drains or water course.</li><li>▶ Use water delivered as a fine spray to control fire and cool adjacent area.</li></ul>
Fire/Explosion Hazard	<ul style="list-style-type: none"><li>▶ Combustible.</li><li>▶ Slight fire hazard when exposed to heat or flame.</li><li>▶ Heating may cause expansion or decomposition leading to violent rupture of containers.</li><li>▶ On combustion, may emit toxic fumes of carbon monoxide (CO).</li></ul> <p>Combustion products include; carbon dioxide (CO<sub>2</sub>) nitrogen oxides (NO<sub>x</sub>) phosphorus oxides (PO<sub>x</sub>) sulfur oxides (SO<sub>x</sub>) other pyrolysis products typical of burning organic material. May emit poisonous fumes. May emit corrosive fumes. <b>CARE:</b> Water in contact with hot liquid may cause foaming and a steam explosion with wide scattering of hot oil and possible severe burns. Foaming may cause overflow of containers and may result in possible fire.</p>

### SECTION 6 ACCIDENTAL RELEASE MEASURES

#### Personal precautions, protective equipment and emergency procedures

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

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"><li>▶ Containers, even those that have been emptied, may contain explosive vapours.</li><li>▶ Do NOT cut, drill, grind, weld or perform similar operations on or near containers.</li><li>▶ Avoid all personal contact, including inhalation.</li><li>▶ Wear protective clothing when risk of exposure occurs.</li><li>▶ Use in a well-ventilated area.</li><li>▶ Prevent concentration in hollows and sums.</li></ul>
Other information	<ul style="list-style-type: none"><li>▶ Store in original containers.</li><li>▶ Keep containers securely sealed.</li><li>▶ No smoking, naked lights or ignition sources.</li><li>▶ Store in a cool, dry, well-ventilated area.</li></ul>

#### Conditions for safe storage, including any incompatibilities

Suitable container	<ul style="list-style-type: none"><li>▶ Metal can or drum</li><li>▶ Packaging as recommended by manufacturer.</li><li>▶ Check all containers are clearly labelled and free from leaks.</li></ul>
Storage incompatibility	<ul style="list-style-type: none"><li>▶ Avoid reaction with oxidising agents</li></ul> <p><b>CARE:</b> Water in contact with heated material may cause foaming or a steam explosion with possible severe burns from wide scattering of hot material. Resultant overflow of containers may result in fire.</p>

### SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

#### Control parameters

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#### OCCUPATIONAL EXPOSURE LIMITS (OEL)

#### INGREDIENT DATA

Not Available

#### EMERGENCY LIMITS

Ingredient	Material name	TEEL-1	TEEL-2	TEEL-3
Gear HD 90	Not Available	Not Available	Not Available	Not Available
Ingredient	Original IDLH		Revised IDLH	
long-chain alkyl amine	Not Available		Not Available	
alkyl phosphate	Not Available		Not Available	
alkyl dithio thiadiazole	Not Available		Not Available	
long-chain alkenyl amine	Not Available		Not Available	

#### Exposure controls

Appropriate engineering controls	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. The basic types of engineering controls are: Process controls which involve changing the way a job activity or process is done to reduce the risk. 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.
Personal protection	   
Eye and face protection	► 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	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. 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. Suitability and durability of glove type is dependent on usage. ► Wear chemical protective gloves, e.g. PVC. ► Wear safety footwear or safety gumboots, e.g. Rubber
Body protection	See Other protection below
Other protection	► Overalls. ► P.V.C. apron. ► Barrier cream.
Thermal hazards	Not Available

#### 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 ^

^ - 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)

## SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

#### Information on basic physical and chemical properties

Appearance	Bright and clear liquid; insoluble in water.		
Physical state	Liquid	Relative density (Water = 1)	0.879 @ 20 deg.C
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

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Gear HD 90

Melting point / freezing point (°C)	Not Available	Viscosity (cSt)	17.5 @ 100 deg.C
Initial boiling point and boiling range (°C)	Not Available	Molecular weight (g/mol)	Not Applicable
Flash point (°C)	242	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 (g/L)	Immiscible	pH as a solution (1%)	Not Applicable
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"> <li>► Unstable in the presence of incompatible materials.</li> <li>► Product is considered stable.</li> <li>► Hazardous polymerisation will not occur.</li> </ul>
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**

Gear HD 90	TOXICITY	IRRITATION
	Not Available	Not Available
<b>Legend:</b>	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	

Acute Toxicity	<input checked="" type="checkbox"/>	Carcinogenicity	<input checked="" type="checkbox"/>
Skin Irritation/Corrosion	<input checked="" type="checkbox"/>	Reproductivity	<input checked="" type="checkbox"/>
Serious Eye Damage/Irritation	<input checked="" type="checkbox"/>	STOT - Single Exposure	<input checked="" type="checkbox"/>
Respiratory or Skin sensitisation	<input checked="" type="checkbox"/>	STOT - Repeated Exposure	<input checked="" type="checkbox"/>
Mutagenicity	<input checked="" type="checkbox"/>	Aspiration Hazard	<input checked="" type="checkbox"/>

**Legend:**  – Data available but does not fill the criteria for classification  
 – Data required to make classification available  
 – Data Not Available to make classification

**SECTION 12 ECOLOGICAL INFORMATION**

**Toxicity**

Ingredient	Endpoint	Test Duration (hr)	Species	Value	Source
Not Available	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
<b>Legend:</b>	Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPIWIN Suite V3.12 - 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				

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

**DO NOT** discharge into sewer or waterways.

**Persistence and degradability**

Ingredient	Persistence: Water/Soil	Persistence: Air
	No Data available for all ingredients	No Data available for all ingredients

**Bioaccumulative potential**

Ingredient	Bioaccumulation
	No Data available for all ingredients

**Mobility in soil**

Continued...

Ingredient	Mobility
	No Data available for all ingredients

## SECTION 13 DISPOSAL CONSIDERATIONS

### Waste treatment methods

Product / Packaging disposal	<ul style="list-style-type: none"><li>► Recycle wherever possible or consult manufacturer for recycling options.</li><li>► Consult State Land Waste Authority for disposal.</li><li>► Bury or incinerate residue at an approved site.</li><li>► Recycle containers if possible, or dispose of in an authorised landfill.</li></ul>
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## SECTION 14 TRANSPORT INFORMATION

### Labels Required

Marine Pollutant	NO
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Land transport (UN): 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

## SECTION 15 REGULATORY INFORMATION

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

National Inventory	Status
Australia - AICS	Y
Canada - DSL	Y
Canada - NDSL	Y
China - IECSC	Y
Europe - EINEC / ELINCS / NLP	Y
Japan - ENCS	Y
Korea - KECI	Y
New Zealand - NZIoC	Y
Philippines - PICCS	Y
USA - TSCA	Y
<b>Legend:</b>	Y = All ingredients are on the inventory N = Not determined or one or more ingredients are not on the inventory and are not exempt from listing (see specific ingredients in brackets)

## SECTION 16 OTHER INFORMATION

### 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.

A list of reference resources used to assist the committee may be found at:

[www.chemwatch.net](http://www.chemwatch.net)

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

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TEL (+61 3) 9572 4700.