

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

#### 1.1. Product identifier

Product form	: Mixture
Product name	: Nordlub V-RFE SAE 0W-20
Product code	: 65635
Type of product	: NORDLUB
Product group	: Blend
Other means of identification	: Art.Nr.: 20079

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

##### 1.2.1. Relevant identified uses

Main use category	: Industrial use, Professional use, Consumer use
Industrial/Professional use spec	: Non-dispersive use Used in closed systems
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

NORDLUB Deutschland GmbH  
Lange Str. 49  
D-21614 Buxtehude - Deutschland / Germany  
T +49 (0)4161 / 55 905 - 0 - F +49 (0)4161 / 55 905 - 29  
[info@nordlub.de](mailto:info@nordlub.de) - [www.nordlub.de](http://www.nordlub.de)

#### 1.4. Emergency telephone number

No additional information available

### 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

No additional information available

#### 2.2. Label elements

##### Labelling according to Regulation (EC) No. 1272/2008 [CLP]

EUH-statements	: EUH208 - Contains molybdenum polysulphide long chain alkyl dithiocarbamate complex, C14-16-18 Alkylphenol. May produce an allergic reaction. EUH210 - Safety data sheet available on request.
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#### 2.3. Other hazards

No additional information available

### SECTION 3: Composition/information on ingredients

#### 3.1. Substances

Not applicable

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according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

### 3.2. Mixtures

Comments : The mineral oils in the product contain < 3% DMSO extract (IP 346)

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	5 – 15	Asp. Tox. 1, H304
Bis(nonylphenyl)amine	(CAS-No.) 36878-20-3 (EC-No.) 253-249-4 (REACH-no) 01-2119488911-28	1 – 2,49	Aquatic Chronic 4, H413
C14-16-18 Alkylphenol	(REACH-no) 01-2119498288-19	1 – 1,5	Skin Sens. 1, H317 STOT RE 2, H373
Zinc bis[O-(-6-methylheptyl)] bis[O-(sec-butyl)]bis(dithiophosphate)	(CAS-No.) 93819-94-4 (EC-No.) 298-577-9 (REACH-no) 01-2119543726-33	0,1 – 0,99	Skin Irrit. 2, H315 Eye Dam. 1, H318 Aquatic Chronic 2, H411
molybdenum polysulphide long chain alkyl dithiocarbamate complex	(EC-No.) 457-320-2 (REACH-no) 01-0000019337-66	0,1 – 0,15	Skin Irrit. 2, H315 Skin Sens. 1, H317

#### Specific concentration limits:

Name	Product identifier	Specific concentration limits
Zinc bis[O-(-6-methylheptyl)] bis[O-(sec-butyl)]bis(dithiophosphate)	(CAS-No.) 93819-94-4 (EC-No.) 298-577-9 (REACH-no) 01-2119543726-33	( 6,25 ≤C < 100) Skin Irrit. 2, H315 ( 10 ≤C < 12,5) Eye Irrit. 2, H319 ( 12,5 ≤C < 100) Eye Dam. 1, H318

Full text of H-statements: see section 16

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures after inhalation : Not expected to require first aid measures.  
First-aid measures after skin contact : Wash skin with mild soap and water.  
First-aid measures after eye contact : In case of eye contact, immediately rinse with clean water for 10-15 minutes.  
First-aid measures after ingestion : Do not induce vomiting. Rinse mouth. Get immediate medical advice/attention.

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

Symptoms/effects after inhalation : Not expected to present a significant inhalation hazard under anticipated conditions of normal use.  
Symptoms/effects after skin contact : Not expected to present a significant skin hazard under anticipated conditions of normal use.  
Symptoms/effects after eye contact : Not expected to present a significant eye contact hazard under anticipated conditions of normal use.  
Symptoms/effects after ingestion : Not expected to present a significant ingestion hazard under anticipated conditions of normal use.

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

No additional information available

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media : Water fog. Foam. Powder. Dry chemical product.  
Unsuitable extinguishing media : Do not use a heavy water stream.

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### 5.2. Special hazards arising from the substance or mixture

No additional information available

### 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.  
Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

## SECTION 6: Accidental release measures

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

#### 6.1.1. For non-emergency personnel

Protective equipment : Wear suitable protective clothing and gloves.

#### 6.1.2. For emergency responders

Protective equipment : Wear suitable protective clothing and gloves.

### 6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if product enters sewers or public waters.

### 6.3. Methods and material for containment and cleaning up

For containment : Impound and recover large spill by mixing it with inert granular solids.  
Methods for cleaning up : Detergent. Take up liquid spill into absorbent material sand, saw dust, kieselguhr.  
Other information : Spill area may be slippery. Use suitable disposal containers.

### 6.4. Reference to other sections

No additional information available

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling : Avoid all unnecessary exposure. Both local exhaust and general room ventilation are usually required.  
Handling temperature : < 40 °C  
Hygiene measures : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

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

Storage temperature : < 40 °C  
Storage area : Store in dry, cool, well-ventilated area.

### 7.3. Specific end use(s)

No additional information available

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### molybdenum polysulphide long chain alkyl dithiocarbamate complex

#### EU - Occupational Exposure Limits

IOELV TWA (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>
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Additional information : 5 mg/m<sup>3</sup> for oil mists (TWA, 8h-workday) recommended, based upon the ACGIH TLV (Analysis according to US NIOSH Method 5026, NIOSH Manual of Analytical Methods, 3rd Edition).

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### 8.2. Exposure controls

#### Personal protective equipment:

Safety glasses. Gloves.

#### Hand protection:

Permeation time: minimum >480min long term exposure; material / thickness [mm]: >0,35 mm. Nitrile rubber (NBR) /

#### Eye protection:

Standard EN 166 - Personal eye-protection.

#### Skin and body protection:

No special clothing/skin protection equipment is recommended under normal conditions of use

#### Respiratory protection:

No special respiratory protection equipment is recommended under normal conditions of use with adequate ventilation.

#### Personal protective equipment symbol(s):



## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Oily liquid.
Colour	: Yellow-brown.
Odour	: Characteristic.
Odour threshold	: No data available
pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: > 200 °C @ ASTM D92
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Density	: 0,84 g/cm <sup>3</sup> @15°C
Solubility	: Slightly soluble, the product remains on the water surface.
Partition coefficient n-octanol/water (Log Pow)	: No data available
Viscosity, kinematic	: 38,5 mm <sup>2</sup> /s @ 40°C
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available

### 9.2. Other information

No additional information available

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### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

None under normal conditions.

#### 10.2. Chemical stability

Stable under normal conditions.

#### 10.3. Possibility of hazardous reactions

None under normal conditions.

#### 10.4. Conditions to avoid

No data available.

#### 10.5. Incompatible materials

Strong oxidizers. acids. Bases.

#### 10.6. Hazardous decomposition products

None under normal conditions.

### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

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
LC50 inhalation rat (mg/l)	5,2 mg/l/4h

#### Bis(nonylphenyl)amine (36878-20-3)

LD50 oral rat	> 5000 mg/kg OECD 401
LD50 dermal rat	> 2000 mg/kg OECD 402

#### Zinc bis[O-(6-methylheptyl)] bis[O-(sec-butyl)]bis(dithiophosphate) (93819-94-4)

LD50 oral rat	2600 mg/kg 67/548/EEG annex V
LD50 dermal rabbit	> 3160 mg/kg OECD 402
LC50 inhalation rat (mg/l)	> 2 mg/l 1h - OECD 403 - read across

Skin corrosion/irritation : Not classified  
Serious eye damage/irritation : Not classified  
Respiratory or skin sensitisation : Not classified. (Based on available data, the classification criteria are not met)  
Germ cell mutagenicity : Not classified  
Carcinogenicity : Not classified

Reproductive toxicity : Not classified

STOT-single exposure : Not classified

STOT-repeated exposure : Not classified

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Aspiration hazard : Not classified

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Viscosity, kinematic	38,5 mm <sup>2</sup> /s @ 40°C
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## SECTION 12: Ecological information

### 12.1. Toxicity

Hazardous to the aquatic environment, short-term (acute) : Not classified

Hazardous to the aquatic environment, long-term (chronic) : Not classified

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

LC50 fish 1	> 1000 mg/l
LC50 other aquatic organisms 1	> 1000 mg/l <i>scenedes quadricauda</i> @3hr
EC50 72h algae (1)	> 1000 mg/l waterflea @2DY
EC50 72h algae (2)	> 125 mg/l waterflea @21DY
NOEC (acute)	125 mg/l @Waterflea @21DY
NOEC chronic algae	> 1000 @ <i>scenedesmus quadriacauda</i> @3hr

#### Bis(nonylphenyl)amine (36878-20-3)

LC50 fish 1	> 100 mg/l OECD 203 ( <i>Danio rerio</i> @96h)
EC50 Daphnia 1	> 100 mg/l OECD 202 ( <i>Daphnia magna</i> )
EC50 72h algae (1)	> 100 mg/l OECD 201 ( <i>Desmodesmus subspicatus</i> )

#### molybdenum polysulphide long chain alkyl dithiocarbamate complex

EC50 Daphnia 1	50 mg/l OECD 202 ( <i>Daphnia magna</i> , 48h)
EC50 72h algae (1)	9,62 mg/l OECD 201 ( <i>Pseudokirchneriella subcapitata</i> )
NOEC (acute)	94,8 mg/l OECD 203 ( <i>Oncorhynchus mykiss</i> , 96h)
NOEC chronic algae	100 mg/l @21d - <i>Daphnia Magna</i>

#### Zinc bis[O-(6-methylheptyl)] bis[O-(sec-butyl)]bis(dithiophosphate) (93819-94-4)

LC50 fish 1	4,5 mg/l OECD 203 ( <i>Oncorhynchus mykiss</i> ) 96h
EC50 Daphnia 1	5,4 mg/l OECD 202 ( <i>Daphnia magna</i> ) 48h
EC50 72h algae (1)	2,1 mg/l OECD 201 ( <i>Selenastrum capricornutum</i> ) 48h

### 12.2. Persistence and degradability

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Persistence and degradability	Not soluble in water, so only minimally biodegradable.
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#### 1-Decene, homopolymer, hydrogenated (68037-01-4)

Biodegradation	2 % 28DY @ OECD TG 301D
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### Bis(nonylphenyl)amine (36878-20-3)

Persistence and degradability	Not readily biodegradable.
Biodegradation	1 % @28d

### molybdenum polysulphide long chain alkyl dithiocarbamate complex

Persistence and degradability	Not readily biodegradable.
Biodegradation	22,75 % OECD 301 (29d)

### Zinc bis[O-(-6-methylheptyl)] bis[O-(sec-butyl)]bis(dithiophosphate) (93819-94-4)

Biodegradation	1,5 % OECD 301B 28d
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### 12.3. Bioaccumulative potential

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

Partition coefficient n-octanol/water (Log Kow)	> 6,5
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### Bis(nonylphenyl)amine (36878-20-3)

Partition coefficient n-octanol/water (Log Pow)	> 7,6
Bioaccumulative potential	Potential to bioaccumulate.

### molybdenum polysulphide long chain alkyl dithiocarbamate complex

BCF fish 1	88 OECD 305 (Cyprinus carpio, 25°C)
Bioconcentration factor (BCF REACH)	88 OECD 305 (Cyprinus carpio - @25°C - 0,05mg/l)

### Zinc bis[O-(-6-methylheptyl)] bis[O-(sec-butyl)]bis(dithiophosphate) (93819-94-4)

Partition coefficient n-octanol/water (Log Pow)	0,9 @23°C
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### 12.4. Mobility in soil

#### Bis(nonylphenyl)amine (36878-20-3)

Ecology - soil	Adsorbs into the soil.
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#### molybdenum polysulphide long chain alkyl dithiocarbamate complex

Ecology - soil	Adsorbs into the soil.
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#### Zinc bis[O-(-6-methylheptyl)] bis[O-(sec-butyl)]bis(dithiophosphate) (93819-94-4)

Ecology - soil	Adsorbs into the soil.
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### 12.5. Results of PBT and vPvB assessment

No additional information available

### 12.6. Other adverse effects

No additional information available

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Additional information : Dispose in a safe manner in accordance with local/national regulations.

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### SECTION 14: Transport information

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

#### 14.1. UN number

UN-No. (ADR)	: Not applicable
UN-No. (IMDG)	: Not applicable
UN-No. (IATA)	: Not applicable
UN-No. (ADN)	: Not applicable
UN-No. (RID)	: Not applicable

#### 14.2. UN proper shipping name

Proper Shipping Name (ADR)	: Not applicable
Proper Shipping Name (IMDG)	: Not applicable
Proper Shipping Name (IATA)	: Not applicable
Proper Shipping Name (ADN)	: Not applicable
Proper Shipping Name (RID)	: Not applicable

#### 14.3. Transport hazard class(es)

<b>ADR</b>	
Transport hazard class(es) (ADR)	: Not applicable
<b>IMDG</b>	
Transport hazard class(es) (IMDG)	: Not applicable
<b>IATA</b>	
Transport hazard class(es) (IATA)	: Not applicable
<b>ADN</b>	
Transport hazard class(es) (ADN)	: Not applicable
<b>RID</b>	
Transport hazard class(es) (RID)	: Not applicable

#### 14.4. Packing group

Packing group (ADR)	: Not applicable
Packing group (IMDG)	: Not applicable
Packing group (IATA)	: Not applicable
Packing group (ADN)	: Not applicable
Packing group (RID)	: Not applicable

#### 14.5. Environmental hazards

Dangerous for the environment	: No
Marine pollutant	: No
Other information	: No supplementary information available

#### 14.6. Special precautions for user

##### Overland transport

Not applicable

##### Transport by sea

Not applicable

##### Air transport

Not applicable

##### Inland waterway transport

Not applicable

##### Rail transport

Not applicable

#### 14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable



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### 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

##### 15.1.2. National regulations

###### Germany

Employment restrictions : Observe restrictions according Act on the Protection of Working Mothers (MuSchG)  
Observe restrictions according Act on the Protection of Young People in Employment (JArbSchG)

Water hazard class (WGK) : WGK 2, Significantly hazardous to water (Classification according to AwSV, Annex 1)

Hazardous Incident Ordinance (12. BImSchV) : Is not subject of the Hazardous Incident Ordinance (12. BImSchV)

###### Netherlands

SZW-lijst van kankerverwekkende stoffen : Zinc bis[O-(-6-methylheptyl)] bis[O-(sec-butyl)]bis(dithiophosphate) is listed

SZW-lijst van mutagene stoffen : Zinc bis[O-(-6-methylheptyl)] bis[O-(sec-butyl)]bis(dithiophosphate) is listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding : None of the components are listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid : None of the components are listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : None of the components are listed

###### Denmark

Danish National Regulations : Pregnant/breastfeeding women working with the product must not be in direct contact with the product

#### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out for the substance or the mixture by the supplier

### SECTION 16: Other information

#### Abbreviations and acronyms:

	ACGIH: American Conference of Governmental Industrial Hygienists
	TWA: Time Weighted Average
	TLV: Threshold Limit Value
	ASTM: American Society for Testing and Materials
	ADR: Accord Européen Relatif au Transport International des Marchandises Dangereuses par Route
	RID: Regulations Concerning the International Carriage of Dangerous Goods by Rail
	ADNR: Accord Européen relatif au Transport International des Marchandises Dangereuses par voie de Navigation du Rhin
	IMDG: International Maritime Dangerous Goods
	ICAO: International Civil Aviation Organization
	IATA: International Air Transport Association
	STEL: Short Term Exposure Limit
	LD50: median Lethal Dose for 50% of subjects
	ATE: acute toxicity estimate

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	LC50: median Lethal Concentration for 50% of subjects
	EC50: concentration producing 50% effect

Other information : The information in this SDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use or disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This MSDS was prepared and is to be used only for this product. If the product is used as a component in another product, this MSDS information may not be applicable.

Full text of H- and EUH-statements:	
Aquatic Chronic 2	Hazardous to the aquatic environment — Chronic Hazard, Category 2
Aquatic Chronic 4	Hazardous to the aquatic environment — Chronic Hazard, Category 4
Asp. Tox. 1	Aspiration hazard, Category 1
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Skin Irrit. 2	Skin corrosion/irritation, Category 2
Skin Sens. 1	Skin sensitisation, Category 1
STOT RE 2	Specific target organ toxicity — Repeated exposure, Category 2
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H373	May cause damage to organs through prolonged or repeated exposure.
H411	Toxic to aquatic life with long lasting effects.
H413	May cause long lasting harmful effects to aquatic life.
EUH208	Contains molybdenum polysulphide long chain alkyl dithiocarbamate complex, C14-16-18 Alkylphenol. May produce an allergic reaction.
EUH210	Safety data sheet available on request.

SDS EU (REACH Annex II)

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.