

MATERIAL SAFETY DATA SHEET

In accordance with Regulation (EU) No 1907/2006 with later amendments

Oil for screw compressors

Made on: 11.12.2012

Updated on: 30.11.2015

Version: 3.0 CLP

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

1.1. Product identifier

Trade name: **Oil for screw compressors**

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

Identified uses: Oil for screw compressors.

Uses advised against: other uses are not recommended.

1.3. Details of the supplier of the safety data sheet

Manufacturer: **ORLEN OIL Sp. z o.o.**

Address: 31-323 Kraków, ul. Opolska 100

Phone/Fax +48 12 66 555 00 / +48 12 66 555 01

No.: Quality-related information: phone + 48 24 2010367 or +48 13 4384415

E-mail: msds@orlenoil.pl

1.4. Emergency telephone number:

+ 48 24 2010367 or +48 13 4384415 (in weekdays from 7.00 till 15.00)

In case of emergency call 112 (Emergency number), 998 (Fire Brigade), 999 (Ambulance Service)

SECTION 2. HAZARDS IDENTIFICATION

2.1. Classification of the ~~substance or mixture~~

risks	Classification	According to Directive (EC) No. 1272/2008 (CLP):
resulting from physicochemical properties:		Not classified as hazardous
for humans:		Not classified as hazardous
for environment:		Not classified as hazardous

Description of hazard phrases: see section 16

2.2. Label elements

Pictogram: None

Signal word: None

Hazard statements: None

Precautionary statements: None

Additional information on the label:

EUH208 – Contains: product of chemical reaction of bis (4-methylpentane-2-yl) ditiophosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14 alkyl (branched). May cause an allergic reaction.

2.3. Other hazards

No data regarding PBT or vPvB criteria according to Annex XIII of REACH Regulation.
Flammable product of high flash point.

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SECTION 3. COMPOSITION / INFORMATION ON INGREDIENTS

3.1. Substances – not applicable

3.2. Mixtures: mixture of mineral base oils and enriching additives

Hazardous ingredients and its concentrations in the mixture:

<u>Substance name/ REACH registration number</u>	<u>CAS No/ EC No</u>	<u>% wt.</u>	<u>Index number</u>	<u>Classification according to EC Directive No.1272/2008 (CLP)</u>
Reaction products of Benzeneamine, N-phenyl- with nonene, branched 01-2119488911-28	253-249-4	0,39 – 0,5	-	Aquatic Chronic 4; H413
Product of chemical reaction of bis (4-methylpentane-2-yl)ditiophosphoric acid with phosphorus oxide, propylene oxide and ramate alkylamines (C12-C14). 01-2119493620-38	931-384-6	0,07 - 0,14	-	Acute Tox. 4; H302 Aquatic Chronic 2; H411 Eye Dam. 1; H318 Skin Sens. 1; H317

Description of R, H phrases and full text of classification given in Section 16.

Base oils applied in the mixture **are not classified as carcinogenic**. DMSO extract content (according to IP 346) <3%.

Based on viscosity it does not pose hazard by aspiration.

SECTION 4. FIRST AID MEASURES

4.1. Description of first aid measures

Inhalation:

Remove the victim (move/carry) from the exposure area to fresh air and keep warm and quiet. Place an unconscious person in the recovery position, loosen tight parts of clothes; control and maintain patency of the airways. Give oxygen in the case of breathing disorders; if not breathing, use artificial ventilation. In the case of loss of consciousness, respiratory disorders or persisting symptoms obtain medical aid immediately.

Skin contact:

Immediately remove contaminated/soaked clothes and shoes. Thoroughly wash contaminated skin with soapy water or mild detergent, and then rinse with water. Consult a doctor if irritation symptoms appear and persist.

NOTE: Take off contaminated/soaked clothes and remove it to a safe place, far from heat and ignition sources.

Eye contact:

Flush the contaminated eyes with running water, remove contact lenses (if worn) and continue flushing for approx. 15 minutes. When flushing, keep the eyelids wide open and move the eyeball. Consult a doctor if symptoms appear and persist.

NOTE: Do not use a stream of water which is too strong, it may damage the cornea.

Swallowing:

Do not induce vomiting. In the case when spontaneous vomiting occurs, keep the victim leaning forward, with her/his face directed to the ground. Obtain medical aid.

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

Not determined.

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

Do not induce vomiting and do not administer anything orally to an unconscious person. Show the material safety data sheet or the label/container to the medical staff. A person providing first aid in the area where vapour/fog

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concentration is unknown should be equipped with the appropriate respiratory protection.

Indications for a doctor: symptomatic treatment.

SECTION 5. PROCEEDING IN CASE OF FIRE

5.1. Extinguishing media

Suitable extinguishing media: carbon dioxide, dry powder, foam; water spray.

Unsuitable extinguishing media: water jet.

5.2. Special hazards arising from the substance or mixture

Flammable liquid with high ignition temperature. In the fire environment smokes containing carbon oxides and other unidentified thermal decomposition products of higher hydrocarbons are formed. Avoid breathing products being released in the fire environment - they may be hazardous for health.

5.3. Advice for fire fighters

Proceed in accordance with procedures applicable for extinguishing chemical fire. In the case of fire involving great amounts of the product, remove all bystanders not participating in action; call emergency brigades and the Fire Brigade.

Cool the containers exposed to fire or high temperature with water spray from a safe distance, if possible and remove them from the endangered area.

Prevent the wastewater after fire extinguishing from penetrating sewage and water tanks. Remove wastewater and residue after firefighting in accordance with valid regulations.

People participating in the fire-extinguishing action should be properly trained, equipped with a full protective clothing and a self-containing breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Use individual protection measures – see section 8 of the Safety Data Sheet.

Limit the access of bystanders to the endangered area until proper cleaning operations are finished. In the case of great leakage isolate the endangered area. Ensure that breakdown and its results are eliminated by a properly trained staff only.

Avoid contact with the eyes, skin and clothes. Do not inhale vapours or mist. If release occurred in closed area, ensure adequate ventilation.

NOTE: Spilled oils can make surfaces slippery.

Remove ignition sources, extinguish open fire, do not smoke.

6.2. Environmental precautions

If it is possible and safe, stop or limit product release. Limit spreading of the great leakages by embanking the area. Prevent the product from penetrating drains, waters or soil. Notify respective authorities (occupational safety and hygiene, emergency brigades, environmental brigades and organs of administration).

6.3. Methods and material for containment and cleaning up

Cover up small spillage with non-flammable, neutral absorbent material (sand, soil, diatomic earth, vermiculite) and collect in an appropriate, closed, labelled waste bin. Clean the contaminated area with water with detergent, and then rinse with water. Pump off large amounts of liquid. Dispose of according to the applicable regulations. If necessary, obtain help from specialist companies dealing with waste transport and utilisation in order to remove the product/absorbent material contaminated with the product. Use the services of professional waste transport/ utilization companies.

6.4. Reference to other sections

See also sections 8 and 13 of the Safety Data Sheet.

SECTION 7. HANDLING AND STORAGE

7.1. Precautions for safe handling

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Provide effective ventilation. Avoid contact with the eyes, skin and clothes. Avoid vapour and fog inhalation. Keep unused containers tightly closed.

Essential hygiene rules should be observed: do not eat, drink or smoke during work, wash hands with soapy water after work/after break in work. Do not use contaminated clothing; Immediately remove contaminated clothing and wash before reuse. NOTE: Take off contaminated/soaked clothes and remove it to a safe place, far from heat and ignition sources. Use individual protection measures in accordance with the information contained in section 8 of the Safety Data Sheet.

7.2. Conditions for safe storage, including any incompatibilities

Store in tightly sealed and properly labelled containers, in a cool, well ventilated place with a non-absorbing ground. The product may be stored in storage tanks in accordance with applicable regulations. Store far from heat sources, protect from direct sunlight. Protect against contamination and water accumulation. Keep away from strong oxidisers. Storage temperature: -20 – 40°C.

7.3. Specific end use(s)

None.

SECTION 8. EXPOSURE CONTROL AND PERSONAL PROTECTION EQUIPMENT

8.1. Control parameters

Highly refined mineral oils – inhaled fraction: TLV-TWA: 5 mg/m³, TLV-STEL: - mg/m³, TLV-C: –

Directive of the Minister of Work and Social Policy dated June 6th, 2014 on the maximum occupational levels of factors hazardous to health at the workplace (Dz.U. 2014, item 817)

8.2. Exposure controls

Recommended methods of exposure assessment in the air:

- PN-Z-04008-7:2002 – "Air purity protection -- Sampling methods -- Principles of air sampling in work place and interpretation of results"
- PN-Z-04108-6:2006 „Air purity protection -- Determination of mineral oil (liquid phase aerosol) in work places by absorption spectrometry method in ultra-violet ”.
- PN-Z-04108-5:2006 „Air purity protection -- Tests for content of oils -- Determination of mineral oil (liquid phase of aerosol) in work places by absorption spectrometry method in infra-red"

Appropriate engineering controls:

General ventilation and/or local fume hood in order to maintain hazardous agent concentration in air below acceptable limits.

Eye or face protection:

Tight safety eyeglasses (goggles) in the case of prolonged exposure or the risk of liquid splashing to the eye. It is recommended to equip the workplace with a water shower to flush eyes.

Skin protection:

Wear impermeable, oil resistant gloves (e.g. perbutane, viton, butyl rubber). Glove material should be selected with consideration to the breakthrough time (recommended minimum 30 min.), permeability rate (recommended: minimum level 2) and degradation. It is recommended to change gloves regularly and replace them immediately if any signs of wear or damage (tearing, puncture) or changes in appearance (colour, flexibility, shape) occur. Wear protective apron or protective suit made of coated, product-resistant fabrics; oil-resistant, anti-slippery shoes.

Respiratory protection:

Not required under normal conditions of use. In the case of exceeding the acceptable limits or inadequate ventilation use the approved respirator equipped with a suitable filter or filter-absorber. For activities in the limited space / insufficient oxygen content in air / high uncontrolled emission / any circumstances, in which the mask does not provide adequate protection, use self-contained breathing apparatus.

Thermal hazards:

Not applicable

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Environmental exposure controls:

Consider using precautionary measures in order to protect the area around storage tanks.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

a) Appearance	: Clear liquid, colour: yellow to brown
b) Odour	: faint, characteristic
c) Odour threshold	: Not applicable
d) pH	: Not applicable
e) Melting/solidification temperature	: max -9°C
f) Initial boiling temperature and melting temperature range	: not determined
g) Ignition point	: > 175°C
h) Evaporation rate	: Not determined
i) Flammability (solid, gas)	: Not applicable
j) Upper/lower flammability limit or upper/lower explosion limit	: Oil mist flammability at concentration approx. 45g/m ³ .
k) Vapour pressure	: Not determined
l) Vapour density	: Not determined
m) Relative density	: approx. 0,880 g/cm ³ at 15°C
n) Solubility	: Insoluble in water. Soluble in hydrocarbon solvents.
o) Distribution coefficient n-octanol/ water	: Not determined
p) Self-ignition point	: Not determined
q) Decomposition temperature	: Not determined
r) Viscosity	: approx. 46 mm ² /s at 40 °C
s) Explosive properties	: Not applicable
t) Oxidizing properties	: Not applicable

9.2. Other information

None

SECTION 10. STABILITY AND REACTIVITY

10.1. Reactivity

The product is not reactive.

10.2. Chemical stability

The product is stable under normal ambient conditions, as well as under the expected temperature and under the expected pressure.

10.3. Possibility of hazardous reactions

None known.

10.4. Conditions to avoid:

High temperature, open flame and other ignition sources.

10.5. Incompatible materials

Strong oxidisers

10.6. Hazardous decomposition products

None known.

SECTION 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

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Acute toxicity:

Data for base oil:

LD50: >5000 mg/kg (oral, rat)

LC50: >5.53 mg/l (inhalation, rat)

LD50: >5000 mg/kg (skin, rabbit)

Skin corrosion/irritation:

Classification criteria have not been met based on the available data. Prolonged contact with product may cause skin irritation.

Serious eye damage/irritation:

Classification criteria have not been met based on the available data.

Respiratory or skin sensitisation:

Classification criteria have not been met based on the available data. Mixture contains: product of chemical reaction of bis (4-methylpentane-2-yl) ditiophosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14 alkyl (branched). May cause an allergic reaction.

Germ cell mutagenicity:

Classification criteria have not been met based on the available data.

Carcinogenicity:

Classification criteria have not been met based on the available data.

Reproductive toxicity:

Classification criteria have not been met based on the available data.

STOT – single exposure:

Accidental ingestion may cause gastric disturbances (nausea, vomiting, stomach pain);

STOT – repeated exposure:

Repetitive or prolonged exposure may cause drying, cracking or chronic inflammation of the skin. May cause respiratory tract irritation in case it appears in a form of oil mist or vapours in high temperatures.

SECTION 12. ECOLOGICAL INFORMATION

12.1. Toxicity:

No quantitative data.

12.2. Persistence and degradability

Limited level of biodegradability is expected.

12.3. Bioaccumulative potential

No data available.

12.4. Mobility in soil

It can be hazardous to environment in case of misuse or in emergency situations - the product penetrates into the ground, causing contamination of the groundwater.

12.5. Results of PBT and vPvB assessment

According to Annex XIII, the product does not meet PBT or vPvB criteria.

12.6. Other adverse effects

Product of very low volatility. The product is insoluble in water and lighter than water. The product accumulates on the surface of water, forming a film that hinders oxygen exchange.

SECTION 13. HANDLING OF WASTES

13.1. Waste treatment methods

Waste code: **13 02 05*** mineral-based non-chlorinated engine gear and lubricating oils.

NOTE: Since waste code is assigned based on the source of origin, the end user should define the obtained wastes and assign a proper code, taking into consideration specific conditions of use, in accordance with applicable

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regulations.

Soaked clothes, papers or other organic materials should be collected and utilised in an controlled way.

Do not dispose to sewer. Avoid contamination of surface and ground waters. Consider reuse. Waste product should be recovered or utilised at professional, approved furnaces or waste recycling/neutralization facilities, in accordance with applicable regulations.

Recovery / recycling / utilisation of package wastes should be performed according to the applicable regulations. NOTE: Only completely emptied and cleaned packages may be returned for recycling. Use services of authorised companies.

The Act of 14 December 2012 on wastes (Dz.U. of year 2013, item 21)

The Act of 13th June 2013 on package and package waste management (Journal of Laws of 2013 item 888). Regulation of the Minister of Environmental Protection of 9th December 2014 on the catalogue of waste (Journal of Laws 2014 item 1923).

SECTION 14. TRANSPORT INFORMATION

The product is not a subject to transport regulations on hazardous goods included in ADR (road transport), RID (rail transport), IMDG (marine transport) and ICAO/IATA (air transport).

14.1. UN number	Not applicable
14.2. UN Proper shipping name	Not applicable
14.3. Transport hazard class(es)	Not applicable
14.4. Packing group	Not applicable
14.5. Environmental hazards	Not applicable
14.6. Special precautions for users	Not applicable
14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not applicable

SECTION 15. REGULATORY INFORMATION

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

Act of 25 February 2011 on chemicals and their mixtures (Journal of Laws of 2011 No. 63 item 322)

Regulation of the Minister of Health of 20 April 2012 on labelling packaging of dangerous substances and dangerous mixtures and some mixtures (Journal of Laws 12, item 445)

Regulation (EC) No. 1907/2006 of the European Parliament of 18 December 2006 on registration, evaluation and authorisation of chemicals (REACH) and establishing the European Chemicals Agency, amending Directive No.1999/45/WE and repealing regulation of the Council (EEC) No. 793/93 and regulation of the Commission (EC) No. 1488/94, as well as the Council Directive No. 76/769/EEC and Commission Directive No. 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC (correction Journal of Laws of 29 May 2007 as amended)

Regulation of the Commission (EC) No. 453/2010 of 20 May 2010 amending regulation (EC) No. 1907/2006 of the European Parliament and the Council of 18 December 2006 on registration, evaluation and authorisation of chemicals (REACH) (Journal of Laws L 133 of 31 May 2010)

Regulation of the European Parliament and the Council (EC) No. 1272/2008 of 16 December 2008 on classification, labelling and packing substances and mixtures, amending and repealing directives 67/548/EEC and 1999/45/EC and amending regulation (EC) No. 1907/2006 (Journal of Laws No. 353 of 31 December 2008 as amended)

Regulation of the Minister of Health of 10 August 2012 on criteria and methods of classifying substances and mixtures (Journal of Laws of 2012 No 0 item 1018)

Regulation of the Minister of Health of 2 February 2011 on tests and measurements of factors harmful to life in the working environment (Journal of Laws of 2011, No. 33, item 166)

Regulation of the Minister of Economy of 21 December 2005 on essential requirements for personal protection (Journal of Laws of 2005 No. 259, item 2173)

Regulation of the Minister of Health and Social Care of 30 May 1996 on medical examination of employees, scope of preventive health care and medical certificates issued for purposes stipulated in the Labour Code (Journal of Laws of 1996, No. 69, item 332; of 1997 No. 60, item 375; of 1998 No. 159, item 1057; of 2001 No. 37, item 451; No. 128, item 1405)

Regulation of the Minister of Health and Social Policy of 26 September 1997 on general occupational health and safety regulations (consolidated text, Journal of Laws of 2003 No. 169, item 1650; of 2007 No. 49, item 330; of 2008 No. 108, item 690)

Regulation of the Minister of Health of 30 December 2004 on occupational health and safety related to the presence of chemical agents in the workplace (Journal of Laws of 2005 No. 11, item 86; of 2008 No. 203, item 1275)

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Act of 24 August 1991 on fire protection (consolidated text, appendix to the Journal of Laws of 2002 No. 147 item 1229; of 2003 No. 52, item 452; of 2004 No. 96, item 959; of 2005 No. 100, item 835 and 836; of 2006 No. 191, item 1410; of 2007 No. 89, item 590; of 2008 No. 163, item 1015; of 2009 No. 11, item 59)

European Agreement concerning the international carriage of dangerous goods by road (ADR), concluded in Geneva on 30 September 1957, as amended, effective as of the date of entry into force for the Polish Republic, proclaimed in the right way (Dz. U. of 2011. No 110, item 641);

Act of 19 August 2011 on the carriage of dangerous goods (Dz. U. of 2011, No 227, item 1367).

15.2. Chemical safety assessment

Not required for the mixture.

SECTION 16. OTHER INFORMATION

Update range:

Changes in sections: 2-16

Abbreviations and acronyms in the Safety Data Sheet

TLV-TWA	Threshold Limit Value
TLV-STEL	Threshold Limit Value, Short Term Exposure Limit
TLV-C	Ceiling exposure limit
vPvB	very Persistent, very Bioaccumulative (substance)
PBT	Persistent, bioaccumulative, and toxic (substance)
PNEC	Predicted No Effect Concentration
DN(M)EL	Derived No Effect Level
LD ₅₀	Dose that will kill 50% of the test animals
LC ₅₀	Concentration that will kill 50% of the test animals
EC _x	Concentration at which x% inhibition of growth or growth rate is observed
LOEC	Lowest Observed Effect Concentration
NOEL	No Observed Effect Concentration
RID	Regulations Concerning the International Carriage of Dangerous Goods by Rail
ADR	Agreement on Dangerous Goods by Road
IMDG	International Maritime Transport of Dangerous Goods
IATA	International Air Transport Association
UVCB	Unknown substances, of Variable Composition, or of Biological Origin

References:

Legal regulations quoted in sections 2 – 15 of the Safety Data Sheet.

Chemical safety assessment report for the substance – base oils unspecified.

The list of applicable hazard statements, precautionary statements not specified in whole in sections 2-15 of the Safety Data Sheet

The list of applicable H-phrases in Section 3

- H302 - Harmful if swallowed.
- H317 - May cause an allergic skin reaction.
- H318 – Causes serious eye damage
- H411 - Toxic to aquatic life with long lasting effects.
- H413 – May cause long lasting effects to aquatic life

The list of applicable CLP classification phrases

- Aquatic Chronic 2 Chronic aquatic hazard - Category 1
- Aquatic Chronic 4 Chronic aquatic hazard - Category 2
- Acute Tox. 4 – Acute toxicity, cat. 4
- Eye Dam. 1 Serious eye damage / Eye irritation - Category 1

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Skin Sens. 1 – Skin sensitization, cat. 1

Advice on training for employees:

Employees who use the product should be trained on risks for health, hygiene, use of individual protection, accident preventive actions, rescue actions, etc.,

This MSDS is not a quality certificate for the product. All data presented in this sheet are to be taken only as a help in safe handling in transport, distribution, use and storage. Persons handling the product should be informed about risks and precautionary measures. Information in the Safety Data Sheet relates to the above mentioned product and its specified uses only. They may be obsolete or insufficient for this product used in conjunction with other materials or in different applications than those specified in the Safety Data Sheet.

The user is obliged to follow all applicable standards and regulations and is also responsible for inappropriate use of information contained in this sheet or for an inappropriate use of the product. In the case of special applications evaluate exposure and develop the appropriate procedure and training programs in order to ensure safety at work.
