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SECTION 1. IDENTIFICATION

Product name : DMO-32

Article-No. : 340381

Other means of identification : No data available

Manufacturer or supplier's details

Company name of supplier : Klüber Lubrication NA LP

9010 County Road 2120

Tyler, Texas 75707

USA

Phone: +1 903 534-8021 Fax: +1 903 581-4376

32 Industrial Drive Londonderry, NH 03053

USA

Phone: +1 603 647-4104 Fax: +1 603 647-4106

E-mail address of person

responsible for the SDS

: mcm@us.kluber.com

Material Compliance Management

Emergency telephone

number

: +1-517-545-7070 NCEC

Recommended use of the chemical and restrictions on use

Recommended use : Lubricating oil

Restrictions on use : Restricted to professional users.

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the Hazardous Products Regulations

Reproductive toxicity : Category 2

GHS label elements

Hazard pictograms

Signal word : Warning

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Hazard statements : Suspected of damaging fertility. Suspected of damaging the

unborn child.

Precautionary statements : Prevention:

Obtain special instructions before use.

Do not handle until all safety precautions have been read and

understood.

Wear protective gloves/ protective clothing/ eye protection/ face

protection.

Response:

IF exposed or concerned: Get medical advice/ attention.

Storage:

Store locked up.

Disposal:

Dispose of contents/ container to an approved waste disposal

plant.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Chemical nature : ester oil

Components

Chemical name	Common Name/Synonym	CAS-No.	Concentration (% w/w)
Benzenamine, N- phenyl-, reaction products with 2,4,4- trimethylpentene	Benzenamine, N-phenyl-, reaction products with 2,4,4- trimethylpenten e	68411-46-1	Trade secret** (>= 1 - < 5 *)
reaction mass of: triphenylthiophosphate and tertiary butylated phenyl derivatives	reaction mass of: triphenylthiopho sphate and tertiary butylated phenyl derivatives	192268-65-8	Trade secret** (>= 0.1 - < 1 *)

^{*} Actual concentration or concentration range is withheld as a trade secret



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SECTION 4. FIRST AID MEASURES

If inhaled : Obtain medical attention.

Remove person to fresh air. If signs/symptoms continue, get

medical attention.

Keep patient warm and at rest.

If unconscious, place in recovery position and seek medical

advice.

Keep respiratory tract clear.

If breathing is irregular or stopped, administer artificial

respiration.

In case of skin contact : Take off all contaminated clothing immediately.

Get medical attention immediately if irritation develops and

persists.

Wash clothing before reuse.

Thoroughly clean shoes before reuse. Wash off immediately with plenty of water.

In case of eye contact : Rinse immediately with plenty of water, also under the eyelids,

for at least 10 minutes.

If eye irritation persists, consult a specialist.

If swallowed : Move the victim to fresh air.

If unconscious, place in recovery position and seek medical

advice.

Keep respiratory tract clear. Do NOT induce vomiting. Obtain medical attention. Rinse mouth with water.

Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and

delayed

No information available.

None known.

Notes to physician : No information available.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media : Use water spray, alcohol-resistant foam, dry chemical or

carbon dioxide.

Unsuitable extinguishing

media

High volume water jet



^{**} See Section 15 for HMIRA information.

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Hazardous combustion

products

Carbon oxides

Further information : Standard procedure for chemical fires.

Special protective equipment

for firefighters

In the event of fire, wear self-contained breathing apparatus.

Use personal protective equipment.

Exposure to decomposition products may be a hazard to

health.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures Evacuate personnel to safe areas.
Use personal protective equipment.

Ensure adequate ventilation.

Do not breathe vapours or spray mist.

Refer to protective measures listed in sections 7 and 8.

Environmental precautions

Try to prevent the material from entering drains or water

courses.

Prevent further leakage or spillage if safe to do so. Local authorities should be advised if significant spillages

cannot be contained.

Methods and materials for containment and cleaning up

Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to

local / national regulations (see section 13).

SECTION 7. HANDLING AND STORAGE

Advice on safe handling : Do not breathe vapours or spray mist.

Avoid contact with skin and eyes. For personal protection see section 8.

Smoking, eating and drinking should be prohibited in the

application area.

Wash hands and face before breaks and immediately after

handling the product.

Do not get in eyes or mouth or on skin.

Do not get on skin or clothing.

Do not ingest. Do not repack.

Do not re-use empty containers.

These safety instructions also apply to empty packaging which

may still contain product residues. Keep container closed when not in use.

Conditions for safe storage : Store in original container.

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Keep container closed when not in use. Keep in a dry, cool and well-ventilated place.

Containers which are opened must be carefully resealed and

kept upright to prevent leakage.

Store in accordance with the particular national regulations.

Keep in properly labelled containers.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

Engineering measures : Handle only in a place equipped with local exhaust (or other

appropriate exhaust).

Personal protective equipment

Respiratory protection : Not required; except in case of aerosol formation.

Filter type : Filter type A-P

Hand protection

Material : Nitrile rubber
Break through time : > 10 min
Protective index : Class 1

Remarks : Wear protective gloves. The break through time depends

amongst other things on the material, the thickness and the type of glove and therefore has to be measured for each

case.

Eye protection : Safety glasses with side-shields

Skin and body protection : Choose body protection in relation to its type, to the

concentration and amount of dangerous substances, and to

the specific work-place.

Protective measures : The type of protective equipment must be selected according

to the concentration and amount of the dangerous substance

at the specific workplace.

Hygiene measures : Wash face, hands and any exposed skin thoroughly after

handling.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : liquid

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Colour : colourless

Odour : characteristic

Odour Threshold : No data available

pH : Not applicable

Melting point/range : No data available

Boiling point/boiling range : No data available

Flash point : 263 °C

Method: ASTM D 92, Cleveland open cup

Evaporation rate : No data available

Flammability (solid, gas) : Not applicable

Self-ignition : No data available

Upper explosion limit / Upper

flammability limit

No data available

Lower explosion limit / Lower

flammability limit

No data available

Vapour pressure : < 0.001 hPa (20 °C)

Relative vapour density : No data available

Relative density : 0.915 (20 °C)

Reference substance: Water The value is calculated

Bulk density : No data available

Solubility(ies)

Water solubility : insoluble

Solubility in other solvents : No data available

Partition coefficient: n-

octanol/water

No data available



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Auto-ignition temperature : No data available

Decomposition temperature : No data available

Viscosity

Viscosity, dynamic : No data available

Viscosity, kinematic : 32 mm2/s (40 °C)

Explosive properties : Not explosive

Oxidizing properties : No data available

Sublimation point : No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity : No hazards to be specially mentioned.

Chemical stability : Stable under normal conditions.

Possibility of hazardous

reactions

No dangerous reaction known under conditions of normal use.

Conditions to avoid : No conditions to be specially mentioned.

Incompatible materials : No materials to be especially mentioned.

Hazardous decomposition

products

No decomposition if stored and applied as directed.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Product:

Acute oral toxicity : Remarks: This information is not available.

Acute inhalation toxicity : Remarks: This information is not available.

Acute dermal toxicity : Remarks: This information is not available.

Components:

Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg

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Method: OECD Test Guideline 401

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg

Method: OECD Test Guideline 402

Assessment: The substance or mixture has no acute dermal

toxicity

reaction mass of: triphenylthiophosphate and tertiary butylated phenyl derivatives:

Acute oral toxicity : LD50 (Rat): > 2,000 mg/kg

Method: EC Directive 92/69/EEC B.1 Acute Toxicity (Oral)

GLP: yes

Assessment: The substance or mixture has no acute oral

toxicity

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg

Method: OECD Test Guideline 402

GLP: yes

Assessment: The substance or mixture has no acute dermal

toxicity

Skin corrosion/irritation

Product:

Remarks : This information is not available.

Components:

Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene:

Species : Rabbit

Assessment : No skin irritation

Method : OECD Test Guideline 404

Result : No skin irritation

reaction mass of: triphenylthiophosphate and tertiary butylated phenyl derivatives:

Species : Rabbit

Assessment : No skin irritation

Method : Tested according to Directive 92/69/EEC.

Result : No skin irritation

GLP : yes

Serious eye damage/eye irritation

Product:

Remarks : This information is not available.

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Components:

Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene:

Species : Rabbit

Result : No eye irritation Assessment : No eye irritation

Method : OECD Test Guideline 405

reaction mass of: triphenylthiophosphate and tertiary butylated phenyl derivatives:

Species : Rabbit

Result : No eye irritation Assessment : No eye irritation

Method : Tested according to Directive 92/69/EEC.

GLP : yes

Respiratory or skin sensitisation

Product:

Remarks : This information is not available.

Components:

Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene:

Species : Guinea pig

Assessment : Did not cause sensitisation on laboratory animals.

Method : OECD Test Guideline 406

Result : Did not cause sensitisation on laboratory animals.

reaction mass of: triphenylthiophosphate and tertiary butylated phenyl derivatives:

Test Type : Maximisation Test

Species : Guinea pig

Assessment : Does not cause skin sensitisation.

Method : Tested according to Directive 92/69/EEC.

Result : Does not cause skin sensitisation.

GLP : ves

Germ cell mutagenicity

Product:

Genotoxicity in vitro : Remarks: No data available

Genotoxicity in vivo : Remarks: No data available

Components:

reaction mass of: triphenylthiophosphate and tertiary butylated phenyl derivatives:

Genotoxicity in vitro : Test Type: Chromosome aberration test in vitro

Test system: Chinese hamster fibroblasts

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Metabolic activation: with and without metabolic activation Method: Mutagenicity (in vitro mammalian cytogenetic test)

Result: negative

GLP: yes

Germ cell mutagenicity -

Assessment

Animal testing did not show any mutagenic effects.

Carcinogenicity

Product:

Remarks : No data available

Reproductive toxicity

Product:

Effects on fertility : Remarks: No data available

Effects on foetal

development

Remarks: No data available

Components:

Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene:

Reproductive toxicity -

- Fertility -

Assessment

Some evidence of adverse effects on sexual function and

fertility, based on animal experiments.

reaction mass of: triphenylthiophosphate and tertiary butylated phenyl derivatives:

Species: Rat

Effects on foetal :

development Application Route: Oral

General Toxicity Maternal: NOAEL: 150 mg/kg body weight Developmental Toxicity: NOAEL: 150 mg/kg body weight

Symptoms: Skeletal malformations

Target Organs: Skeleton

Method: OECD Test Guideline 414

Result: Embryotoxic effects and adverse effects on the

offspring were detected.

Reproductive toxicity -

- Fertility -

Assessment

Some evidence of adverse effects on development, based on

animal experiments.

Repeated dose toxicity

Product:

Remarks : This information is not available.

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Components:

reaction mass of: triphenylthiophosphate and tertiary butylated phenyl derivatives:

Species : Rat
NOAEL : 50 mg/kg
Application Route : Oral
Exposure time : 28 d

Method : OECD Test Guideline 407

Aspiration toxicity

Product:

This information is not available.

Further information

Product:

Remarks : Information given is based on data on the components and

the toxicology of similar products.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Toxicity to fish

Remarks: No data available

Toxicity to daphnia and other :

aquatic invertebrates Remarks: No data available

Toxicity to algae/aquatic

plants Remarks: No data available

Toxicity to microorganisms : Remarks: No data available

Components:

Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene:

Toxicity to fish : LC50 (Danio rerio (zebra fish)): > 100 mg/l

Exposure time: 96 h Test Type: static test

Method: OECD Test Guideline 203

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Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): 51 mg/l

Exposure time: 48 h Test Type: static test

Method: OECD Test Guideline 202

Toxicity to algae/aquatic

plants

EC50 (Desmodesmus subspicatus (green algae)): > 100 mg/l

Exposure time: 72 h Test Type: static test

Method: OECD Test Guideline 201

reaction mass of: triphenylthiophosphate and tertiary butylated phenyl derivatives:

Toxicity to fish : LC50 (Danio rerio (zebra fish)): > 100 mg/l

Exposure time: 96 h Test Type: semi-static test

Method: OECD Test Guideline 203

GLP: yes

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): > 100 mg/l

Exposure time: 48 h Test Type: static test

Method: OECD Test Guideline 202

GLP: yes

Toxicity to algae/aquatic

plants

EC50 (Desmodesmus subspicatus (green algae)): > 100 mg/l

Exposure time: 72 h Test Type: static test

Method: OECD Test Guideline 201

GLP: yes

NOEC (Desmodesmus subspicatus (green algae)): > 100 mg/l

Exposure time: 72 h

Method: OECD Test Guideline 201

Toxicity to daphnia and other :

aquatic invertebrates (Chronic toxicity)

NOEC (Daphnia magna (Water flea)): > 5.5 mg/l

Exposure time: 21 d

Test Type: Reproduction Test Method: OECD Test Guideline 211

GLP: yes

Toxicity to microorganisms : EC20 (activated sludge): 403 mg/l

Exposure time: 3 h Test Type: static test

Method: OECD Test Guideline 209

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GLP: yes

Ecotoxicology Assessment

Chronic aquatic toxicity : May cause long lasting harmful effects to aquatic life.

Persistence and degradability

Product:

Biodegradability : Remarks: No data available

Physico-chemical

removability

Remarks: No data available

Components:

Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene:

Biodegradability : aerobic

Inoculum: activated sludge Result: Not rapidly biodegradable

Biodegradation: 1 % Exposure time: 28 d

Method: OECD Test Guideline 301B

GLP: yes

reaction mass of: triphenylthiophosphate and tertiary butylated phenyl derivatives:

Biodegradability : anaerobic

Result: Not rapidly biodegradable

Biodegradation: 0 % Exposure time: 28 d

Method: OECD Test Guideline 301D

GLP: yes

Bioaccumulative potential

Product:

Bioaccumulation : Remarks: This mixture contains no substance considered to

be persistent, bioaccumulating and toxic (PBT).

This mixture contains no substance considered to be very

persistent and very bioaccumulating (vPvB).

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Components:

Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene:

Partition coefficient: n-

octanol/water

: $\log Pow: > 5$

reaction mass of: triphenylthiophosphate and tertiary butylated phenyl derivatives:

Bioaccumulation : Bioconcentration factor (BCF): > 500

Partition coefficient: n- : log Pow: 4.8 - 7.0 (22 °C)

octanol/water pH: 6.7

Method: OECD Test Guideline 117

GLP: yes

Mobility in soil

Product:

Mobility : Remarks: No data available

Distribution among : Remarks: No data available

environmental compartments

Other adverse effects

Product:

Additional ecological

information

: No information on ecology is available.

Components:

reaction mass of: triphenylthiophosphate and tertiary butylated phenyl derivatives:

Results of PBT and vPvB

assessment

: Non-classified PBT substance Non-classified vPvB substance

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : The product should not be allowed to enter drains, water

courses or the soil.

Do not dispose of with domestic refuse.

Dispose of as hazardous waste in compliance with local and

national regulations.

Contaminated packaging : Packaging that is not properly emptied must be disposed of as

the unused product.

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Dispose of waste product or used containers according to local regulations.

SECTION 14. TRANSPORT INFORMATION

International Regulations

UNRTDG

Not regulated as a dangerous good

IATA-DGR

Not regulated as a dangerous good

IMDG-Code

Not regulated as a dangerous good

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

National Regulations

TDG

Not regulated as a dangerous good

Special precautions for user

Not applicable

SECTION 15. REGULATORY INFORMATION

NPRI Components : Solvent naphtha (petroleum), heavy arom.

Canadian lists

No substances are subject to a Significant New Activity Notification.

No substances are subject to a Significant New Activity Notification.

SECTION 16. OTHER INFORMATION

Full text of other abbreviations

AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized

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System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO -International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO -International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

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