according to Regulation (EC) No 1907/2006

ADDINOL Transformer Oil TRF-HX

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

1.1. Product identifier

ADDINOL Transformer Oil TRF-HX

UFI: KYC2-3671-6209-HAPU

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

Use of the substance/mixture

Lubricant and additive.

1.3. Details of the supplier of the safety data sheet

Company name: ADDINOL Lube Oil GmbH

Gebäude 4609
Street: Am Haupttor
Place: D-06237 Leuna

Telephone: +49 (0) 3461 845-0 Telefax: +49 (0) 3461 845-555

e-mail: info@addinol.de
Contact person: Application Technology
Internet: www.addinol.de

Responsible Department: ADDINOL Application Technology

1.4. Emergency telephone +49 (0) 3461 845 222 - Only available during office hours.

number:

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No. 1272/2008

Hazard categories:

Aspiration hazard: Asp. Tox. 1

Hazardous to the aquatic environment: Aquatic Chronic 3

Hazard Statements:

May be fatal if swallowed and enters airways. Harmful to aquatic life with long lasting effects.

The mixture is classified as hazardous according to regulation (EC) No 1272/2008 [CLP].

2.2. Label elements

Regulation (EC) No. 1272/2008

Hazard components for labelling

Distillates (petroleum), heavy hydrocracked; Base oil unspecified

Signal word: Danger

Pictograms:



Hazard statements

H304 May be fatal if swallowed and enters airways.
H412 Harmful to aquatic life with long lasting effects.

Precautionary statements

P273 Avoid release to the environment.

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.

P331 Do NOT induce vomiting.

P405 Store locked up.

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P501

Dispose of contents/container to industrial incineration plant.

Additional advice on labelling

The product is classified and labelled according to EC directives or corresponding national laws.

2.3. Other hazards

Prolonged/repetitive skin contact may cause skin defattening or dermatitis.

Process vapors can irritate airways, skin and eyes.

Do not allow uncontrolled leakage of product into the environment.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Hazardous components

| CAS No | Chemical name | | | Quantity | | |
|------------|---|----------|------------------|----------|--|--|
| | EC No | Index No | REACH No | | | |
| | GHS Classification | | | | | |
| 64741-76-0 | Distillates (petroleum), heavy hydro | | < 30 % | | | |
| | 265-077-7 | | 01-2119486951-26 | | | |
| | Asp. Tox. 1; H304 | | | | | |
| 128-37-0 | 2,6-Di-tert-butyl-4-methylphenol | | | | | |
| | 204-881-4 | | 01-2119480433-40 | | | |
| | Aquatic Acute 1, Aquatic Chronic 1; H400 H410 | | | | | |

Full text of H and EUH statements: see section 16.

Further Information

DMSO-Extrakt < 3 %, IP 346.

Classification system: The classification corresponds to the current EC lists and is completed by information from specialist literature and company information.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

Self-protection of the first aider. Change contaminated clothing. Do not put any product-impregnated cleaning rags into your trouser pockets.

After inhalation

Move victim to fresh air. Put victim at rest and keep warm. Seek medical attention if problems persist.

After contact with skin

After contact with skin, wash immediately with plenty of water and soap. Change contaminated clothing. In case of skin irritation, seek medical treatment. Change contaminated clothing.

After contact with eyes

In case of contact with eyes, rinse immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart. Subsequently consult an ophthalmologist.

After ingestion

Do NOT induce vomiting.

Rinse mouth thoroughly with water. Call a physician immediately.

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

No information available.

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

according to Regulation (EC) No 1907/2006

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First Aid, decontamination, treatment of symptoms.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Foam. Extinguishing powder.

Unsuitable extinguishing media

High power water jet.

5.2. Special hazards arising from the substance or mixture

In case of fire may be liberated: Carbon monoxide Carbon dioxide (CO2). Nitrogen oxides (NOx). Phosphorus oxides, carbon black

5.3. Advice for firefighters

In case of fire: Wear self-contained breathing apparatus.

Additional information

Co-ordinate fire-fighting measures to the fire surroundings. Use water spray/stream to protect personnel and to cool endangered containers. In case of fire and/or explosion do not breathe fumes. Contaminated fire-fighting water must be collected separately. Do not allow to enter into surface water or drains.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

High slip hazard because of leaking or spilled product. Remove all sources of ignition. Wear breathing apparatus if exposed to vapours/dusts/aerosols. Avoid contact with skin, eye and clothing.

6.2. Environmental precautions

Do not allow to enter into surface water or drains. In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities. Prevent spread over a wide area (e.g. by containment or oil barriers).

6.3. Methods and material for containment and cleaning up

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents). Treat the recovered material as prescribed in the section on waste disposal. Clean contaminated articles and floor according to the environmental legislation.

6.4. Reference to other sections

Refer to the provisions listed in Sections 8, 12 and 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Work in well-ventilated zones or use proper respiratory protection. Avoid oil mist If handled uncovered, arrangements with local exhaust ventilation have to be used. Avoid contact with skin, eye and clothing.

Advice on protection against fire and explosion

Keep away from sources of ignition - No smoking.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep the packing dry and well sealed to prevent contamination and absorbtion of humidity.

Hints on joint storage

Keep away from food, drink and animal feedingstuffs.

Keep away from: Oxidizing agents, strong.

Further information on storage conditions

Recommended storage temperature: 5 - 40°C Protect against: heat. UV-radiation/sunlight. frost.

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7.3. Specific end use(s)

Further information: see technical data sheet.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

| CAS No | Substance | ppm | mg/m³ | fib/cm³ | Category | Origin |
|----------|----------------------------------|-----|-------|---------|-----------|--------|
| 128-37-0 | 2,6-Ditertiary-butyl-para-cresol | - | 2 | | TWA (8 h) | |

DNEL/DMEL values

| CAS No | Substance | | | | | | |
|---------------------------------------|---|------------|----------|-----------|--|--|--|
| DNEL type Exposure route Effect Value | | | | | | | |
| 128-37-0 | 2,6-Di-tert-butyl-4-methylphenol | | | | | | |
| Worker DNEL, | Worker DNEL, long-term dermal systemic 8,3 mg/kg bw/day | | | | | | |
| Worker DNEL, | long-term | inhalation | systemic | 5,8 mg/m³ | | | |

PNEC values

| CAS No | Substance | | | | |
|--|----------------------------------|-------------|--|--|--|
| Environmenta | Value | | | | |
| 128-37-0 | 2,6-Di-tert-butyl-4-methylphenol | | | | |
| Freshwater 0,004 mg/l | | | | | |
| Marine water | | 0,0004 mg/l | | | |
| Freshwater se | 1,29 mg/kg | | | | |
| Micro-organisms in sewage treatment plants (STP) | | 100 mg/l | | | |
| Soil | 1,04 mg/kg | | | | |

Additional advice on limit values

Recommended limit value for oil mist

TWA: 5 mg/m³ STEL: 10 mg/m³

The product does not contain any relevant quantities of substances with legally established exposure limitation.

8.2. Exposure controls





Appropriate engineering controls

Provide adequate ventilation as well as local exhaustion at critical locations.

Protective and hygiene measures

Wash hands before breaks and after work. Take off immediately all contaminated clothing. Wash contaminated clothing prior to re-use. Do not eat, drink, smoke or sneeze at the workplace.

Eye/face protection

Tightly sealed safety glasses. German Industry Norms (DIN) / European Norms (EN): DIN EN 166

Hand protection

Tested protective gloves are to be worn: German Industry Norms (DIN) / European Norms (EN): DIN EN 374

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Duration of wearing with permanent contact: 480 min

Suitable material: NBR (Nitrile rubber). Thickness of glove material: 0.7 mm.

Wearing time with occasional contact (splashes): 30 min

Suitable material: NBR (Nitrile rubber). Thickness of glove material: 0.4 mm

Protect skin by using skin protective cream.

Skin protection

Wear suitable protective clothing. Change contaminated clothing. Do not put any product-impregnated cleaning rags into your trouser pockets.

Respiratory protection

If technical exhaust or ventilation measures are not possible or insufficient, respiratory protection must be worn. Cosaint riospráide le scagaire i gcoinne gás orgánach agus gaile cineál A - fiuchphointe> 65 ° C: A1: <1000 ppm: A2: <5000 ppm: A3: <10.000 ppm.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state: liquid
Colour: yellow
Odour: characteristic

Test method

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pH-Value: No data available

Changes in the physical state

Melting point:

No data available
Initial boiling point and boiling range:

not determined

Pour point: -42 °C ASTM D 7346
Flash point: 170 °C DIN EN ISO 2719

Flammability

Solid: No data available
Gas: No data available

Explosive properties

No data available

Lower explosion limits:

Upper explosion limits:

No data available

No data available

Ignition temperature: 235 °C DIN 51794

Auto-ignition temperature

Solid: No data available
Gas: No data available
Decomposition temperature: No data available

Oxidizing properties

No data available

Vapour pressure: No data available

Density (at 15 °C): 0,863 g/cm³ DIN 51757

Water solubility: insoluble

Solubility in other solvents

No data available

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Partition coefficient: No data available

Viscosity / kinematic: 10 mm²/s ASTM D 7042

(at 40 °C)

Vapour density:

Evaporation rate:

No data available

No data available

9.2. Other information

No data available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is stable under storage at normal ambient temperatures.

10.2. Chemical stability

The mixture is chemically stable under recommended conditions of storage, use and temperature.

10.3. Possibility of hazardous reactions

No known hazardous reactions.

10.4. Conditions to avoid

Refer to chapter 7 No further action is necessary.

Do not overheat to avoid decomposition by heat.

10.5. Incompatible materials

Oxidizing agents, strong.

10.6. Hazardous decomposition products

In case of fire may be liberated: Carbon monoxide Carbon dioxide (CO2). Nitrogen oxides (NOx). Phosphorus oxides. carbon black

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity

Based on available data, the classification criteria are not met.

ATEmix tested

| | Dose | Species | Source |
|---------------------------|--------------|---------|----------|
| LD50, oral | > 5000 mg/kg | Rat | OECD 401 |
| LD50, dermal | > 2000 mg/kg | Rabbit | OECD 402 |
| LC50, inhalation (vapour) | 5 mg/l | Rabbit | OECD 403 |

| CAS No | Chemical name | | | | | | |
|------------|---|----------------------|---------|--------|--------|--|--|
| | Exposure route | Dose | Species | Source | Method | | |
| 64741-76-0 | Distillates (petroleum), heavy hydrocracked; Base oil unspecified | | | | | | |
| | oral | LD50 > 5000 mg/kg | Rat | | | | |
| | dermal | LD50 > 2000 mg/kg | Rabbit | | | | |
| | inhalation (4 h) vapour | LC50 > 5000 mg/l | Rabbit | | | | |

Irritation and corrosivity

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Based on available data, the classification criteria are not met.

Irritant effect on the eye: Not an irritant.

Irritant effect on the skin: Prolonged/repetitive skin contact may cause skin defattening or dermatitis.

Sensitising effects

Based on available data, the classification criteria are not met.

Carcinogenic/mutagenic/toxic effects for reproduction

Based on available data, the classification criteria are not met.

STOT-single exposure

Based on available data, the classification criteria are not met.

STOT-repeated exposure

Based on available data, the classification criteria are not met.

Prolonged/repetitive skin contact may cause skin defattening or dermatitis.

Aspiration hazard

May be fatal if swallowed and enters airways.

Specific effects in experiment on an animal

No data available

SECTION 12: Ecological information

12.1. Toxicity

Preparation related information:

Aquatoxicity, Fisch: LL50 > 100 mg/l (96 h), NOEL >= 100 mg/l (OECD 203)

Algae toxicity EL50 (72h) >= 100 mg/l (OECD 201)

| CAS No | Chemical name | | | | | | |
|------------|---|----------------|-------|-----------|-----------------------------------|--------|--------|
| | Aquatic toxicity | Dose | | [h] [d] | Species | Source | Method |
| 64741-76-0 | Distillates (petroleum), heavy hydrocracked; Base oil unspecified | | | | | | |
| | Acute fish toxicity | LC50 > | 100 | 96 h | Fisch | | |
| | Acute algae toxicity | ErC50 > mg/l | = 100 | 72 h | Alge | | |
| 128-37-0 | 2,6-Di-tert-butyl-4-methylp | phenol | | | | | |
| | Acute fish toxicity | LC50 > mg/l | 0,57 | | Brachydanio rerio (zebra-fish) | | |
| | Acute algae toxicity | ErC50 > mg/l | 0,42 | | Desmodesmus subspicatus | | |
| | Acute crustacea toxicity | EC50 > mg/l | 0,17 | 48 h | Daphnia magna | | |

12.2. Persistence and degradability

Product is partially biodegradable.

25% (21d) CEC

12.3. Bioaccumulative potential

Log P > 3.9

12.4. Mobility in soil

Due to its low solubility in water the product is almost completely mechanically separated in biological waste water treatment plants.

12.5. Results of PBT and vPvB assessment

The components in this formulation do not meet the criteria for classification as PBT or vPvB.

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12.6. Other adverse effects

No data available

Further information

Do not allow uncontrolled leakage of product into the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations

Must not be disposed of with domestic refuse. Do not allow to enter into surface water or drains.

List of Wastes Code - residues/unused products

130307 OIL WASTES AND WASTES OF LIQUID FUELS (EXCEPT EDIBLE OILS, AND THOSE IN

CHAPTERS 05, 12 AND 19); waste insulating and heat transmission oils; mineral-based

non-chlorinated insulating and heat transmission oils; hazardous waste

Contaminated packaging

Contaminated packages must be completely emptied and can be re-used following proper cleaning. Dispose of waste according to applicable legislation. Packing which cannot be properly cleaned must be thrown away.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number:-14.2. UN proper shipping name:-14.3. Transport hazard class(es):-14.4. Packing group:-

Hazard No: -

Inland waterways transport (ADN)

14.1. UN number:

14.2. UN proper shipping name:

14.3. Transport hazard class(es):

14.4. Packing group:

Marine transport (IMDG)

14.1. UN number:-14.2. UN proper shipping name:-14.3. Transport hazard class(es):-14.4. Packing group:-

Air transport (ICAO-TI/IATA-DGR)

<u>14.1. UN number:</u> -

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: no

14.6. Special precautions for user

Unless specified otherwise, general measures for safe transport must be followed.

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

not applicable

Other applicable information

according to Regulation (EC) No 1907/2006

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No dangerous good in sense of these transport regulations.

SECTION 15: Regulatory information

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

EU regulatory information

Restrictions on use (REACH, annex XVII):

Entry 28: Distillates (petroleum), heavy hydrocracked; Base oil unspecified

National regulatory information

Water hazard class (D): 1 - slightly hazardous to water

15.2. Chemical safety assessment

Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

Relevant H and EUH statements (number and full text)

H304 May be fatal if swallowed and enters airways.

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.H412 Harmful to aquatic life with long lasting effects.

Further Information

The mixture is classified as hazardous according to regulation (EC) No 1272/2008 [CLP].

These given data only refer to the named product. If the product is used together with other materials or in manufacturing processes the data might not be applicable any more. The data are based on today's state of our knowledge and experience. They are, however, no guarantee of any specific product properties and do not established any legally valid contractual relationship.

The receiver of our product is singularly responsible for adhering to existing laws and regulations.

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)