according to Regulation (EC) No 1907/2006

| ADDINOL | FoodProof | Bio 46 |
|---------|-----------|--------|
|---------|-----------|--------|

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

1.1. Product identifier

ADDINOL FoodProof Bio 46

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

Use of the substance/mixture

readily biodegradable engine, gear and lubricating oils

1.3. Details of the supplier of the safety data sheet

| Manufacturer | | |
|--------------------------|--|------------------------------|
| 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 | |
| Supplier | | |
| Company name: | GEM OILS LIMITED | |
| Place: | IRL-H12K298 Regaskin Co. Cavan | |
| Telephone: | +353 49 4378116 | Telefax: +353 49 4368329 |
| E-mail: | sales@gemoils.ie | |
| Contact person: | GEM OILS LIMITED | Telephone: +353 49 4378116 |
| E-mail: | sales@gemoils.ie | |
| Internet: | https://gemoils.ie/ | |
| 1.4. Emergency telephone | Healthcare Professionals: +353 (1) 809 | 2566 (24 hour service) |
| number | | |

number:

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

Aquatic Chronic 3; H412

Full text of hazard statements: see SECTION 16.

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

2.2. Label elements

Regulation (EC) No 1272/2008

Hazard statements

H412 Harmful to aquatic life with long lasting effects.

Precautionary statements

P273 P501 Avoid release to the environment.

Dispose of contents/container to industrial incineration plant.

Additional advice on labelling

Product is classified and labelled in accordance with EC regulations or the corresponding national laws.

2.3. Other hazards

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No risks worthy of mention.

If handled with proper care and at intended use, the product does not cause any harmful effects acc. to our experiences and available information.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Relevant ingredients

| CAS No | Chemical name | | | Quantity |
|----------|------------------------------------|------------|-----------------|----------|
| | EC No | Index No | REACH No | |
| | Classification (Regulation (EC) No | 1272/2008) | | |
| 597-82-0 | O,O,O-triphenyl phosphorothioat | | | < 0.1 % |
| | 209-909-9 | | 01-2119979545-2 | 1 |
| | Aquatic Chronic 1; H410 | | | |

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

Specific Conc. Limits, M-factors and ATE

| CAS No | EC No | Chemical name | Quantity |
|---|--|---------------------------------|----------|
| | Specific Conc. Limits, M-factors and ATE | | |
| 597-82-0 | 209-909-9 | O,O,O-triphenyl phosphorothioat | < 0.1 % |
| dermal: LD50 = > 2000 mg/kg; oral: LD50 = > 10000 mg/kg Aquatic Chronic 1; H410: M=10 | | | |

Further Information

DMSO-Extract < 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.

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

First Aid, decontamination, treatment of symptoms.

SECTION 5: Firefighting measures

according to Regulation (EC) No 1907/2006

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5.1. Extinguishing media

Suitable extinguishing media

Carbon dioxide (CO2). Extinguishing powder. Water spray. alcohol resistant foam.

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). Sulfur oxides. carbon black.

5.3. Advice for firefighters

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

Additional information

Co-ordinate fire-fighting measures to the fire surroundings. Use water spray jet 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

General advice

High slip hazard because of leaking or spilled product. Remove all sources of ignition. Wear breathing apparatus if exposed to vapours/dusts/aerosols.

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

Other information

Absorb with liquid-binding material (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

Safe handling: see section 7 Personal protection equipment: see section 8 Section 12: Ecological Information (non-mandatory) Disposal: see section 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, eyes and clothes.

Advice on protection against fire and explosion

Keep away from sources of ignition - No smoking.

Advice on general occupational hygiene

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.

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. Keep container tightly closed in a cool place. Keep/Store only in original container.

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Hints on joint storage

Keep away from food, drink and animal feedingstuffs. Keep away from: Oxidizing agent

Further information on storage conditions

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

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, | long-term | inhalation | systemic | 1,76 mg/m³ | |
| Worker DNEL, | long-term | dermal | systemic | 0,5 mg/kg bw/day | |
| Consumer DNE | EL, long-term | inhalation | systemic | 0,435 mg/m³ | |
| Consumer DNEL, long-term | | dermal | systemic | 0,25 mg/kg bw/day | |
| Consumer DNEL, long-term | | oral | systemic | 0,25 mg/kg bw/day | |
| 597-82-0 | 597-82-0 O,O,O-triphenyl phosphorothioat | | | | |
| Worker DNEL, | long-term | inhalation | systemic | 1,39 mg/m³ | |
| Worker DNEL, | long-term | dermal | systemic | 0,4 mg/kg bw/day | |
| Consumer DNEL, long-term | | inhalation | systemic | 0,34 mg/m³ | |
| Consumer DNE | EL, long-term | dermal | systemic | 0,2 mg/kg bw/day | |
| Consumer DNE | EL, long-term | oral | systemic | 0,2 mg/kg bw/day | |

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PNEC values

| CAS No | Substance | |
|--------------|---------------------------------------|---------------|
| Environment | tal compartment | Value |
| 128-37-0 | 2,6-di-tert-butyl-4-methylphenol | |
| Freshwater | | 0,000199 mg/l |
| Freshwater (| (intermittent releases) | 0,00199 mg/l |
| Marine wate | r | 0,00002 mg/l |
| Freshwater s | sediment | 0,458 mg/kg |
| Marine sedir | nent | 0,046 mg/kg |
| Secondary p | poisoning | 16,67 mg/kg |
| Micro-organi | isms in sewage treatment plants (STP) | 0,017 mg/l |
| Soil | | 0,054 mg/kg |
| 597-82-0 | O,O,O-triphenyl phosphorothioat | |
| Soil | | 2,37 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.

Individual protection measures, such as personal protective equipment

Eye/face protection

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

Hand protection

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

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:

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<1000 ppm; A2: <5000 ppm; A3: <10,000 ppm.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| 9.1. Information on basic physical and cher | nical properties | |
|---|----------------------------------|-----------------|
| Physical state: | Liquid | |
| Colour: | light yellow - yellow-orange | |
| Odour: | like: mineral oil. | |
| Odour threshold: | not determined | |
| | | Test method |
| Melting point/freezing point: | No data available | |
| Boiling point or initial boiling point and | not determined | |
| boiling range: | | |
| Flammability: | No data available | |
| Lower explosion limits: | No data available | |
| Upper explosion limits: | No data available | |
| Flash point: | 240 °C | DIN EN ISO 2592 |
| Auto-ignition temperature: | not determined | |
| Decomposition temperature: | No data available | |
| pH-Value: | not applicable | |
| Viscosity / kinematic: | 47 mm²/s | ASTM D 7042 |
| (at 40 °C) | | |
| Water solubility: | virtually insoluble | |
| Solubility in other solvents | | |
| No data available | N 1 17 11 | |
| Partition coefficient n-octanol/water: | No data available | |
| Vapour pressure: Density (at 15 °C): | No data available 0,950 g/cm³ | DIN 51757 |
| Relative vapour density: | No data available | DIN 51757 |
| Particle characteristics: | No data available | |
| 9.2. Other information | | |
| | | |
| Information with regard to physical haza | ard classes | |
| Explosive properties No data available | | |
| Self-ignition temperature | | |
| Solid: | No data available | |
| Gas: | No data available | |
| Oxidizing properties | | |
| No data available | | |
| Other safety characteristics | | |
| Evaporation rate: | No data available | |
| Pour point: | -54 °C | ASTM D 7346 |
| - - | | |

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.

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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

Reacts with : Oxidising agent, strong. Acid.

10.6. Hazardous decomposition products

In case of fire may be liberated: Carbon monoxide Carbon dioxide (CO2). Nitrogen oxides (NOx). Sulfur oxides. carbon black. No known hazardous decomposition products.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity

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

ATEmix calculated

ATE (oral) > 2000 mg/kg; ATE (dermal) > 2000 mg/kg; ATE (inhalation vapour) > 20 mg/l; ATE (inhalation dust/mist) > 5 mg/l

| CAS No | Chemical name | | | | | |
|----------|---------------------------------|-----------------------|---------|--------|--------|--|
| | Exposure route | Dose | Species | Source | Method | |
| 597-82-0 | O,O,O-triphenyl phosphorothioat | | | | | |
| | oral | LD50 > 10000 mg/kg | Rat | | | |
| | dermal | LD50 > 2000 mg/kg | Rat | | | |

Irritation and corrosivity

Skin corrosion/irritation: Based on available data, the classification criteria are not met. Serious eye damage/eye irritation: Based on available data, the classification criteria are not met.

Sensitising effects

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

Carcinogenic/mutagenic/toxic effects for reproduction

Germ cell mutagenicity: Based on available data, the classification criteria are not met. Carcinogenicity: Based on available data, the classification criteria are not met. Reproductive toxicity: 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

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

11.2. Information on other hazards

Endocrine disrupting properties

not applicable

Further information

If handled with proper care and at intended use, the product does not cause any harmful effects acc. to our experiences and available information.

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SECTION 12: Ecological information

12.1. Toxicity

Harmful to aquatic life with long lasting effects.

Mixture not tested.

| CAS No | Chemical name | | | | | | |
|----------|---------------------------------|---------------|-------|-----------|----------------------------|--------|--------|
| | Aquatic toxicity | Dose | | [h] [d] | Species | Source | Method |
| 597-82-0 | O,O,O-triphenyl phosphorothioat | | | | | | |
| | Acute fish toxicity | LC50 mg/l | > 100 | 96 h | Danio rerio (zebrafish) | | |
| | Acute algae toxicity | ErC50 mg/l | > 100 | | Desmodesmus subspicatus | | |
| | Acute crustacea toxicity | EC50 mg/l | > 100 | 48 h | Daphnia magna | | |

12.2. Persistence and degradability

Biodegradable.

12.3. Bioaccumulative potential

No data available

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 substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

12.6. Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

12.7. Other adverse effects

No data available

Further information

Do not allow uncontrolled leakage of product into the environment. Do not allow to enter into surface water or drains.

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

130207 OIL WASTES AND WASTES OF LIQUID FUELS (EXCEPT EDIBLE OILS, AND THOSE IN CHAPTERS 05, 12 AND 19); waste engine, gear and lubricating oils; readily biodegradable engine, gear and lubricating 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 or ID number:

14.2. UN proper shipping name:

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| 14.3. Transport hazard class(es): | - | |
| 14.4. Packing group: | - | |
| Inland waterways transport (ADN) | | |
| <u>14.1. UN number or ID number:</u> | - | |
| 14.2. UN proper shipping name: | - | |
| 14.3. Transport hazard class(es): | - | |
| 14.4. Packing group: | - | |
| Marine transport (IMDG) | | |
| 14.1. UN number or ID number: | - | |
| <u>14.2. UN proper shipping name:</u> 14.3. Transport hazard class(es): | - | |
| 14.3. Transport hazard class(es): 14.4. Packing group: | | |
| Air transport (ICAO-TI/IATA-DGR) | | |
| <u>14.1. UN number or ID number:</u> | <u>_</u> | |
| 14.2. UN proper shipping name: | - | |
| 14.3. Transport hazard class(es): | _ | |
| 14.4. Packing group: | - | |
| 14.5. Environmental hazards | | |
| ENVIRONMENTALLY HAZARDOUS: | No | |
| 14.6. Special precautions for user | | |
| Unless specified otherwise, general m | neasures for safe transport must be followed. | |
| 14.7. Maritime transport in bulk according | to IMO instruments | |
| not applicable | | |
| Other applicable information | | |
| No dangerous good in sense of these | transport regulations. | |
| SECTION 15: Regulatory information | | |
| 15.1. Safety, health and environmental requ | ulations/legislation specific for the substance or mixture | |
| EU regulatory information | <u> </u> | |
| Restrictions on use (REACH, annex XVII) | | |
| Entry 3 | | |
| National regulatory information | | |
| Water hazard class (D): | 1 - slightly hazardous to water | |
| | i - signity hazaruous to water | |
| 15.2. Chemical safety assessment | | |
| Chemical safety assessments for sub | stances in this mixture were not carried out. | |
| SECTION 16: Other information | | |

Changes

This data sheet contains changes from the previous version in section(s): 2,16.

according to Regulation (EC) No 1907/2006

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Abbreviations and acronyms

Aquatic Chronic: Chronic aquatic hazard

For abbreviations and acronyms, see: ECHA Guidance on information requirements and chemical safety assessment, chapter R.20 (Table of terms and abbreviations).

ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; ADN -European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ASTM - American Society for the Testing of Materials; ATE - Acute Toxicity Estimates; bw - Body weight; CAO -Cargo Aircraft Only; CAS - Chemical Abstracts Service; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DNEL - Derived No-Effect Level; DOT -Department of Transportation; DSL - Domestic Substances List (Canada); EG - European Union; EN -European standards; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISO - International Organisation for Standardization; 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; MSHA - Mine Safety and Health Administration; n;o;s; - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; OECD - Organization for Economic Co-operation and Development; PBT -Persistent, Bioaccumulative and Toxic substance; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulation concerning the International Carriage of Dangerous Goods by Rail; RQ -Reportable Quantity; SADT - Self- Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TSCA - Toxic Substances Control Act (United States); UN -United Nations; vPvB - Very Persistent and Very Bioaccumulative

Classification for mixtures and used evaluation method according to Regulation (EC) No 1272/2008 [CLP]

| Classification | Classification procedure |
|-------------------------|--------------------------|
| Aquatic Chronic 3; H412 | Calculation method |

Relevant H and EUH statements (number and full text)

H410 H412 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].

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

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

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