

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 (REACH)

Revision date: 17-Oct-2017

Print date: 17-Oct-2017



Page 1/12

Biodiesel (Mixture)

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

1.1. Product identifier

Trade name/designation:

Biodiesel (Mixture)

Other means of identification:

FAME, Fatty Acid Methyl Ester

Article No.:

V. 1.0

Additional information:

Mixture of fatty acid methyl esters of different origin, Basic physical and chemical properties: DIN EN 14214

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

Use of the substance/mixture:

Fuel, fuel component, solvent, carrier liquid for additives

Relevant identified uses:

Sector of uses [SU]

- SU 1: Agriculture, forestry, fishery
- SU 2a: Mining (without offshore industries)
- SU 2b: Offshore industries
- SU 5: Manufacture of textiles, leather, fur
- SU 6a: Manufacture of wood and wood products
- SU 6b: Manufacture of pulp, paper and paper products
- SU 7: Printing and reproduction of recorded media
- SU 8: Manufacture of bulk, large scale chemicals (including petroleum products)
- SU 9: Manufacture of fine chemicals
- SU 10: Formulation [mixing] of preparations and/or re-packaging (excluding alloys)
- SU 11: Manufacture of rubber products
- SU 12: Manufacture of plastics products, including compounding and conversion
- SU 13: Manufacture of other non-metallic mineral products, e.g. plasters, cement
- SU 14: Manufacture of basic metals, including alloys
- SU 15: Manufacture of fabricated metal products, except machinery and equipment
- SU 16: Manufacture of computer, electronic and optical products, electrical equipment
- SU 17: General manufacturing, e.g. machinery, equipment, vehicles, other transport equipment
- SU 18: Manufacture of furniture

Product Categories [PC]

- PC 1: Adhesives, sealants
- PC 2: Adsorbents
- PC 3: Air care products
- PC 7: Base metals and alloys
- PC 9a: Coatings and paints, thinners, paint removers
- PC 9b: Fillers, putties, plasters, modelling clay
- PC 9c: Finger paints
- PC 11: Explosives
- PC 12: Fertilizers
- PC 13: Fuels
- PC 14: Metal surface treatment products, including galvanic and electroplating products
- PC 15: Non-metal-surface treatment products

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 (REACH)

Revision date: 17-Oct-2017

Print date: 17-Oct-2017



Page 2/12

Biodiesel (Mixture)

- PC 16:** Heat transfer fluids
- PC 17:** Hydraulic fluids
- PC 18:** Ink and toners
- PC 19:** Intermediate
- PC 20:** Products such as ph-regulators, flocculants, precipitants, neutralization agents
- PC 21:** Laboratory chemicals
- PC 23:** Leather tanning, dye, finishing, impregnation and care products
- PC 24:** Lubricants, greases, release products
- PC 25:** Metal working fluids
- PC 26:** Paper and board dye, finishing and impregnation products: including bleaches and other processing aids
- PC 27:** Plant protection products
- PC 28:** Perfumes, fragrances
- PC 29:** Pharmaceuticals
- PC 30:** Photo-chemicals
- PC 31:** Polishes and wax blends
- PC 32:** Polymer preparations and compounds
- PC 33:** Semiconductors
- PC 34:** Textile dyes, finishing and impregnating products
- PC 35:** Washing and cleaning products (including solvent based products)
- PC 36:** Water softeners
- PC 39:** Cosmetics, personal care products

Process categories [PROC]

- PROC 1:** Use in closed process, no likelihood of exposure
- PROC 2:** Use in closed, continuous process with occasional controlled exposure
- PROC 3:** Use in closed batch process (synthesis or formulation)
- PROC 4:** Use in batch and other process (synthesis) where opportunity for exposure arises
- PROC 5:** Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact)
- PROC 6:** Calendering operations
- PROC 7:** Industrial spraying
- PROC 8a:** Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities
- PROC 8b:** Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
- PROC 9:** Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
- PROC 10:** Roller application or brushing
- PROC 11:** Non industrial spraying
- PROC 12:** Use of blowing agents in manufacture of foam
- PROC 13:** Treatment of articles by dipping and pouring
- PROC 14:** Production of preparations or articles by tableting, compression, extrusion, pelletisation
- PROC 15:** Use as laboratory reagent
- PROC 17:** Lubrication at high energy conditions and in partly open process
- PROC 18:** Greasing at high energy conditions
- PROC 19:** Hand-mixing with intimate contact and only PPE available
- PROC 20:** Heat and pressure transfer fluids in dispersive, professional use but closed systems
- PROC 21:** Low energy manipulation of substances bound in materials and/or articles
- PROC 22:** Potentially closed processing operations with minerals/metals at elevated temperature; in industrial setting
- PROC 23:** Open processing and transfer operations with minerals/metals at elevated temperature

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 (REACH)

Revision date: 17-Oct-2017

Print date: 17-Oct-2017



Page 3/12

Biodiesel (Mixture)

PROC 24: High (mechanical) energy work-up of substances bound in materials and/or articles

PROC 25: Other hot work operations with metals

Environmental release categories [ERC]

ERC 1: Manufacture of substances

ERC 2: Formulation of preparations (mixtures)

ERC 3: Formulation in materials

ERC 4: Industrial use of processing aids in processes and products, not becoming part of articles

ERC 5: Industrial use resulting in inclusion into or onto a matrix

ERC 6a: Industrial use resulting in manufacture of another substance (use of intermediates)

ERC 6b: Industrial use of reactive processing aids

ERC 6c: Industrial use of monomers for manufacture of thermoplastics

ERC 6d: Industrial use of process regulators for polymerisation processes in production of resins, rubbers, polymers

ERC 7: Industrial use of substances in closed systems

ERC 8a: Wide dispersive indoor use of processing aids in open systems

ERC 8b: Wide dispersive indoor use of reactive substances in open systems

ERC 8c: Wide dispersive indoor use resulting in inclusion into or onto a matrix

ERC 8d: Wide dispersive outdoor use of processing aids in open systems

ERC 8e: Wide dispersive outdoor use of reactive substances in open systems

ERC 8f: Wide dispersive outdoor use resulting in inclusion into or onto a matrix

ERC 9a: Wide dispersive indoor use of substances in closed systems

ERC 9b: Wide dispersive outdoor use of substances in closed systems

ERC 10a: Wide dispersive outdoor use of long-life articles and materials with low release

ERC 10b: Wide dispersive outdoor use of long-life articles and materials with high or intended release (including abrasive processing)

ERC 11a: Wide dispersive indoor use of long-life articles and materials with low release

ERC 11b: Wide dispersive indoor use of long-life articles and materials with high or intended release (including abrasive processing)

1.3. Details of the supplier of the safety data sheet

Supplier (manufacturer/importer/only representative/downstream user/distributor):

SBE BioEnergie Handelsgesellschaft mbH

Europaallee 20

66113 Saarbrücken

Germany

Telephone: +49 (681) 9 38 27-0

Telefax: +49 (681) 9 38 27-96

E-mail: info@sbe-bioenergie.de

Website: www.sbe-bioenergie.de

E-mail (competent person): Istek.Demirdelen@sbe-bioenergie.de

1.4. Emergency telephone number

Quality Management, +49 (681) 9 38 27-0 (Only available during office hours.)

GIZ-Nord (Göttingen), 24h: +49 (551) 19 24 0

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 [CLP]:

The mixture is classified as not hazardous according to regulation (EC) No 1272/2008 [CLP].

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 (REACH)

Revision date: 17-Oct-2017

Print date: 17-Oct-2017



Page 4/12

Biodiesel (Mixture)

2.2. Label elements

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

According to EC directives or the corresponding national regulations the product does not have to be labelled.

Hazard components for labelling:

No

Hazard statements: -

Supplemental Hazard information (EU): -

Precautionary statements: -

Special rules for supplemental label elements for certain mixtures:

No

2.3. Other hazards

Adverse human health effects and symptoms:

May cause minor eye irritation.

Vapors produced by heating the substance, or finely misted materials, may irritate the mucous membranes and cause dizziness, and nausea.

SECTION 3: Composition / information on ingredients

3.2. Mixtures

Description:

The substance consists mainly of saturated and unsaturated fatty acids methyl ester (chain length C16-C18).

The substance may contain residuals of glycerol and partial glycerides (total < 3.5%) and traces of methanol (< 0.2 %).

To improve the properties the substance may contain additives in small concentrations: Cold flow improvers consisting mainly of oligomers of vinyl acetate and other monomers and oxidation stabilizers containing mainly steric hindered phenols. The single active components do not exceed a concentration of 1000 mg/kg (0.1%) in relation to the whole substance.

ingredients / impurities / Stabilisers:

product identifiers	Substance name Classification according to Regulation (EC) No 1272/2008 [CLP]	Concentration
CAS No.: 68990-52-3 EC No.: 273-606-8 REACH No.: 01-2119485821-32	Fatty acids, vegetable-oil, Me esters	> 5 - < 95 %
CAS No.: 67762-38-3 EC No.: 267-015-4 REACH No.: 01-2119471664-32	Fatty acids, C16-18 and C18-unsatd., Me esters	> 5 - < 95 %

SECTION 4: First aid measures

4.1. Description of first aid measures

Following inhalation:

In case of accident by inhalation: remove casualty to fresh air and keep at rest. Seek medical attention if symptoms persist.

In case of skin contact:

After contact with skin, wash immediately with plenty of water and soap.

IF ON CLOTHING: Change contaminated, saturated clothing.

After eye contact:

On contact with the eyes, rinse immediately with plenty of water for 15 minutes.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 (REACH)

Revision date: 17-Oct-2017

Print date: 17-Oct-2017



Page 5/12

Biodiesel (Mixture)

After ingestion:

- Do not induce vomiting.
- Rinse mouth thoroughly with water.
- If conscious, give half a litre of water to drink immediately.
- Never give anything by mouth to an unconscious person or a person with cramps.

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

- May cause minor eye irritation.
- Vapors produced by heating the substance, or finely misted materials, may irritate the mucous membranes and cause dizziness, and nausea.

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

- No special medical actions required.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:

- Carbon dioxide (CO₂)
- Water mist
- alcohol resistant foam
- Extinguishing powder

Unsuitable extinguishing media:

- Strong water jet
- (Water stream may splash the burning liquid and spread fire.)
- Consider halon use may not be permissible in some countries.

5.2. Special hazards arising from the substance or mixture

- In combustion emits toxic fumes of carbon dioxide / carbon monoxide.
- Soaked rags or spill absorbents (i.e. oil dry, sacks, sand) can cause spontaneous combustion if stored near combustibles and not handled properly.

5.3. Advice for firefighters

- In case of fire: Wear self-contained breathing apparatus.
- On danger by contact with substance: Oil-resistant protective clothing.

5.4. Additional information

- No data available

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Personal precautions:

- Remove all sources of ignition.
- If outside do not approach from downwind. If outside keep bystanders upwind and away from danger point.
- Mark out the contaminated area with signs and prevent access to unauthorised personnel.
- Turn leaking containers leakside up to prevent the escape of liquid.

6.1.2. For emergency responders

- No data available

6.2. Environmental precautions

- Make sure spills can be contained, e.g. in sump pallets or kerbed areas.
- Fire residues and contaminated firefighting water must be disposed of in accordance with the local regulations.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 (REACH)

Revision date: 17-Oct-2017

Print date: 17-Oct-2017



Page 6/12

Biodiesel (Mixture)

6.3. Methods and material for containment and cleaning up

For cleaning up:

Take up with absorbent material (e.g. oil binder).

Recover large spills for salvage or disposal. Wash hard surfaces with safety solvent or detergent to remove remaining oil film.

Greasy nature will result in a slippery surface.

6.4. Reference to other sections

No data available

6.5. Additional information

If appropriate sections 8 and 13 shall be referred to.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Protective measures

Advices on safe handling:

Note: Fatty Acid Methyl Esters with longer chain length are not classified as dangerous according to the criteria of the Dangerous Substances Directive (67/548/EEC) and CLP (Regulation CE 1272/2008).

Specific Risk Management Measures are therefore not required. Nevertheless, the exposure of workers during and after normal operations should be minimised by the use of good industrial hygiene practice. Avoid direct contact with the substance.

When using do not eat, drink or smoke.

Used working clothes should not be worn outside the work area.

Wash hands before breaks and after work.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels:

Keep container tightly closed in a cool, well-ventilated place.

Keep away from sources of ignition

Do not store together with oxidizing agents.

Storage class: 10 - Combustible liquids that cannot be assigned to any of the above storage classes

Further information on storage conditions:

Recommended storage temperature 15 °C - 25 °C

Below normal ambient temperatures material can start to solidify.

7.3. Specific end use(s)

Recommendation:

No sector specific guidance is available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No data available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

No data available

8.2.2. Personal protection equipment



Eye/face protection:

Wear eye/face protection.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 (REACH)

Revision date: 17-Oct-2017

Print date: 17-Oct-2017



Page 7/12

Biodiesel (Mixture)

Skin protection:

Hand protection: Gloves (oil-resistant)

Suitable material: NBR (Nitrile rubber), Fluoropolymers

Breakthrough times and swelling properties of the material must be taken into consideration.

Respiratory protection:

Breathing apparatus in the event of aerosol or mist formation.

Other protection measures:

Has degreasing effect on the skin.

General health and safety measures: Wash hands and face before breaks and after work and take a shower if necessary.

Wash contaminated clothing before reuse.

8.2.3. Environmental exposure controls

No data available

8.3. Additional information

DNELs & PNECs

DNELs

Population/route | Exposure pattern | Value

Workers.....Inhalation, Long-term systemic effects: 6.96 mg/m³

.....Dermal, Long-term systemic effects: 10 mg/kg bw/day

Consumers...Inhalation, Long-term systemic effects: 23 mg/m³

.....Dermal, Long-term systemic effects: 5 mg/kg bw/day

.....Oral, Long-term systemic effects: 5 mg/kg bw/day

PNECs

Compartment | Value

Water..... Freshwater: 2.504 mg/l

.....Marine water: 0.2504 mg/l

.....Intermittent releases: 25.04 mg/l

Sediment.....Not relevant

Soil..... .Not relevant

Sewage treatment: 520 mg/l

Secondary poisoning: Not relevant

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

Physical state: liquid

Colour: yellowish

Odour: mild

Safety relevant basis data

parameter		at °C	Method	Remark
pH	<i>not applicable</i>			Dissolved substance quantity: < 0.023 mg/l
Melting point	≥ -17 - ≤ 16 °C		DIN ISO 3016	
Freezing point	<i>not applicable</i>			
Initial boiling point and boiling range	≥ 302.5 - ≤ 570 °C		ASTM D 7169	pressure: 1013 mbar
Decomposition temperature (°C):	<i>not determined</i>			
Flash point	≥ 120 - < 180 °C		EN ISO 2719	
Evaporation rate	<i>not determined</i>			
Ignition temperature in °C	<i>not determined</i>			
Upper/lower flammability or explosive limits	<i>not applicable</i>			
Vapour pressure	≥ 2 - ≤ 6 mbar	25 °C	EN 13016-1	
Vapour density	<i>not determined</i>			

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 (REACH)

Revision date: 17-Oct-2017

Print date: 17-Oct-2017



Page 8/12

Biodiesel (Mixture)

parameter		at °C	Method	Remark
Relative density	≥ 878 - ≤ 895 kg/m ³	15 °C	EN ISO 3675	
Bulk density	<i>not applicable</i>			
Water solubility (g/L)	≈ 0.23 mg/l			
Partition coefficient: n-octanol/ water	≥ 6.2		OECD 107	
Dynamic viscosity	≥ 5.5 - ≤ 8 mPa*s	25 °C	EN ISO 3104	
Kinematic viscosity	<i>not determined</i>			
Self-ignition	≥ 256 - ≤ 266 °C		Closed Flask	The ignition delay observed at this temperature was 60 seconds and a Temperature increase at middle of the flask was 14 °C.

9.2. Other information

Flammability: Not readily flammable, > Flam. Liq. 4

Oxidising properties: Not oxidising.

SECTION 10: Stability and reactivity

10.1. Reactivity

Stable at ambient temperature.

No hazardous reactions known.

10.2. Chemical stability

Substance is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3. Possibility of hazardous reactions

The substance reacts with strong bases to form methanol.

10.4. Conditions to avoid

See incompatible materials.

10.5. Incompatible materials

Oxidising agent, strong

Alkali (lye), concentrated

10.6. Hazardous decomposition products

In combustion emits toxic fumes of carbon dioxide / carbon monoxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute oral toxicity:

Acute toxicity (oral): LD50: > 5000 mg/kg (Study is closely comparable to OECD 401; GLP)

Acute toxicity (dermal): Has been tested in a fixed dose test at 2000 mg/kg (C6-C12 ME, Rabbit): No sign of toxicity, Methode: EPA OPPTS 870.1200

Acute dermal toxicity:

Acute toxicity (oral): LD50: > 5000 mg/kg (Study is closely comparable to OECD 401; GLP)

Acute toxicity (dermal): Has been tested in a fixed dose test at 2000 mg/kg (C6-C12 ME, Rabbit): No sign of toxicity, Methode: EPA OPPTS 870.1200

Acute inhalation toxicity:

Acute toxicity (oral): LD50: > 5000 mg/kg (Study is closely comparable to OECD 401; GLP)

Acute toxicity (dermal): Has been tested in a fixed dose test at 2000 mg/kg (C6-C12 ME, Rabbit): No sign of toxicity, Methode: EPA OPPTS 870.1200

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 (REACH)

Revision date: 17-Oct-2017

Print date: 17-Oct-2017



Page 9/12

Biodiesel (Mixture)

Skin corrosion/irritation:

Skin corrosion/irritation: In general, esters of long-chain fatty acid methyl esters are always negative with relation to irritation (from C18 onward), while esters of short-chain fatty acids are always (slightly) positive (up to C10). Methode: OECD 404

Serious eye damage/irritation: Conjunctivae effects were observed 1 hour after exposure. Slight chemosis and slight conjunctivae were observed in two animals and four animals, respectively. Two animals presented conjunctivae with diffuse, crimson colour and individual vessels not easily discernible. These effects were fully reversible within 1 day. Methode: OECD 405

Respiratory or skin sensitisation:

Respiratory sensitisation: No information but no respiratory sensitisation is expected.

Skin sensitisation: Esterol C in corn oil was tested using the Guinea pig maximisation test. No clinical signs and no deaths were noted during the study. No cutaneous reactions were observed after the challenge application. Under the experimental conditions of the study, it is concluded that Esterol C does not induce delayed contact hypersensitivity in guinea pig. Methode: OECD 406 (GLP)

Carcinogenicity:

Germ cell mutagenicity (bacteria), Esterol C: Ames test negative. Methode: OECD 471

In vitro cytogenicity test, Esterol C: Investigation in lymphocytes. negative. Methode: OECD 473

In mammalian mutation test: Methyl myristate alone had no mitogenic activity. In combination with phytohemagglutinin, however, a comitogenic activity was found. Methode: EU Method B.17

Carcinogenicity: Methyl oleate and methyl 12-oxo-trans-10-octadecenoate have been tested for carcinogenicity by oral and subcutaneous administration. A positive effect of methyl oleate could not be assessed, while the results pointed to a promoter effect of methyl oxo-octadecenoate. Methode: EU Method B.32

Overall Assessment on CMR properties No CMR properties are expected.

Additional information:

Repeated dose toxicity (subacute, subchronic, chronic): Reproductive toxicity Developmental effects:/ Fertility effects: The tested substance revealed no effect in Screening for reproduction for a dose of until 1000 mg/kg. Methode: OECD 422

STOT-single exposure: No information available.

STOT- repeated exposure: The tested substance revealed no effect in Screening for reproduction for a dose of until 1000 mg/kg. Methode: OECD 422

SECTION 12: Ecological information

12.1. Toxicity

Aquatic toxicity:

EC50 (48 h): 2504 mg/l Methode: OECD 202

EC50 (72 h): 73729 mg/l Methode: OECD 201

Terrestrial toxicity:

LC50: (freshwater fish) 100000 mg/l

12.2. Persistence and degradability

Additional information:

Further ecological information: All methyl esters of fatty acids are readily biodegradable in water, soil and sediments. They pass the 10 days windows with 62% of degradation. Half life in the three compartment is less than 2 -3 days. In some case even less than 1 day. Methode: ISO 10712

12.3. Bioaccumulative potential

Partition coefficient: n-octanol/water:

≥ 6.2; Method: OECD 107

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 (REACH)

Revision date: 17-Oct-2017

Print date: 17-Oct-2017



Page 10/12

Biodiesel (Mixture)

Accumulation / Evaluation:

All methyl esters of fatty acids are readily biodegradable in water, soil and sediments. They pass the 10 days windows with 62% of degradation. Half life in the three compartment is less than 2 -3 days. In some case even less than 1 day. Methode: ISO 10712

12.4. Mobility in soil

The substance is very poorly soluble in water and readily biodegradable. The equilibrium partitioning method, following a fugacity model III indicate a partition of the substance on sediments of 85.5%, based on $\log K_{oc} > 5.63$ at 22°C.

According to equilibrium partitioning Fugacity model III, the soil % is 1.61%, FAME have a soil primary biodegradation of less than 2 days.

12.5. Results of PBT and vPvB assessment

CAS No.	Substance name	Results of PBT and vPvB assessment
68990-52-3	Fatty acids, vegetable-oil, Me esters	—
67762-38-3	Fatty acids, C16-18 and C18-unsatd., Me esters	—

Fatty acids, C16-18 and C18-unsatd., Me esters is not regarded as PBT or vPvB based on physicochemical, environmental and toxicological properties. Fatty acids, C16-18 and C18-unsatd., Me esters is not regarded as P or vP based on readily biodegradability. Fatty acids, C16-18 and C18-unsatd., Me esters is not regarded as bioaccumulative based on the measured BCF of 3. The long-term no-observed effect concentration (Noec) for marine or freshwater organisms is not available because of the high biodegradation rate in environmental conditions. The substance is not classified as carcinogenic (category 1A or 1B), mutagenic (category 1A or 1B), or toxic for reproduction (category 1A, 1B or 2).

12.6. Other adverse effects

Further ecological information: The substance is considered as stable in the environmental range of pH. Hydrolysis happens with the presence of strong acids or basis, with release of methanol and fatty acids or its salts.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Incineration is recommended.

13.1.1. Product/Packaging disposal

Waste codes/waste designations according to EWC/AVV

Waste code product:

07 07 99	Wastes not otherwise specified
07 01 99	Wastes not otherwise specified
07 06 99	Wastes not otherwise specified

Waste treatment options

Appropriate disposal / Product:

Dispose of waste according to applicable legislation.

13.2. Additional information

No data available

SECTION 14: Transport information

No dangerous good in sense of these transport regulations.

14.1. UN-No.

not relevant

14.2. UN proper shipping name

not relevant

14.3. Transport hazard class(es)

not relevant

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 (REACH)

Revision date: 17-Oct-2017

Print date: 17-Oct-2017



Page 11/12

Biodiesel (Mixture)

14.4. Packing group

not relevant

14.5. Environmental hazards

not relevant

14.6. Special precautions for user

not relevant

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

IBC-Code/2014: Pollution Category Y

Additional information:

Product name: Fatty acid methyl esters (m)

Hazards: S/P (safety and pollution)

Ship type: 2 (2.1.2.2)

Tank type: 2G (integral tank (4.1.2), gravity tank (4.1.3))

Tank vents: Cont. (controlled venting)

Tank environmental control: No

Electrical equipment: Temperature classes (i'): -

Electrical equipment: Apparatus group (i''): -

Electrical equipment: Flashpoint (i'''): Yes (flashpoint exceeding 60°C (10.1.6))

Gauging: R (restricted gauging (13.1.1.2))

Vapour detection: T (toxic vapours)

Fire protection: ABC (alcohol-resistant foam or multi-purpose foam, regular foam; encompasses all foams that are not of an alcohol-resistant type, including fluoro-protein and aqueous-film-forming foam (AFFF), water-spray

Emergency equipment: No (no special requirements under this Code)

Specific and operational requirements: 15.12.3, 15.12.4, 15.19.6, 16.2.6, 16.2.9

SECTION 15: Regulatory information

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

15.1.1. EU legislation

Other regulations (EU):

The substance has NOT to be accounted to the tonnage threshold according EC Directive 2012/18/EU (Seveso III), annex 1 - part 2 (no. 34 e).

15.1.2. National regulations

[DE] National regulations

Water hazard class (WGK)

WGK:

1 - schwach wassergefährdend

Source:

VwVwS, Anh. 2, Nr. 834

Other regulations, restrictions and prohibition regulations

Mainly local/national tax legislation and quality requirements (EN 14214 + additional regulations).

15.2. Chemical Safety Assessment

For this substance a chemical safety assessment has been carried out.

15.3. Additional information

No data available

SECTION 16: Other information

16.1. Indication of changes

No data available

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 (REACH)

Revision date: 17-Oct-2017

Print date: 17-Oct-2017



Page 12/12

Biodiesel (Mixture)

16.2. Abbreviations and acronyms

Abbreviations:

CSA: Chemical Safety Assessment

PBT: Substance with persistent, bioaccumulative and toxic properties.

vPvB: Substance with very persistent and very bioaccumulative properties.

MFSU: Manufacture, formulation, supply and use

16.3. Key literature references and sources for data

See annex

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

Classification according to Regulation (EC) No 1272/2008 [CLP]:

The mixture is classified as not hazardous according to regulation (EC) No 1272/2008 [CLP].

16.5. Relevant R-, H- and EUH-phrases (Number and full text)

No data available

16.6. Training advice

No data available

16.7. Additional information

This SDS is not required by Article 31 of Regulation 1907/2006/EU as the substance is not classified as hazardous, however, to comply with Article 32 of REACH and provide customers with relevant information the format of the SDS (according to Regulation 453/2010/EU) has been used.

Fatty Acid Methyl Ester (FAME / Biodiesel)

Assigned to 'Fatty acids, C16-18 and C18-unsatd., methyl esters' and 'Vegetable oil, methyl esters'

Literature

Allan J (2010a). combined Repeated Dose Toxicity Study with the reproduction/Developmental Toxicity screening Test in Rats. Testing laboratory: Charls River. Report no.: 495325. Owner company: European Biodiesel Board.

Allan J (2010b). combined Repeated Dose Toxicity Study with thereproduction/Developmental Toxicity screening Test in Rats. Testing laboratory: Charles River. Report no.: 495325. Owner company: European Biodiesel Board.

Andre D, Mariette-Korotkoff I (2009). Flash Point determination of Esterol A - Equilibrium method, closed cup. Testing laboratory: Centre de Recherche Rhone-Alpes. Report no.: ANA GSP 1797-08. Owner company: Arkema. Report date: 2009-03-31.

Arffmann E., Glavind J. (1971). Tumor promoting activity of fatty acid methyl esters in mice. *Experientia* 27 (12), 1465-1466 (1971).

Arffmann E., Glavind J. (1974). Carcinogenicity in mice of some fatty acid methyl esters. Skin application. *Acta Pathol. Microbiolog. Scand.*, 1974;82:127-136.

Baxter S., Fish A. L. (1981). PARALLEL ACTIVITIES OF FATTY ACID METHYL ESTERS AND ANALOGOUS PHORBOL DIESTERS TOWARD MOUSE LYMPHOCYTES. Vol. 103, No. 1,1981 BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS November 16, 1981 Pages 168-174.

Defleur P (1999a). Ester methylique de colza. Etude eco toxicologique puor determination du WGK. Testing laboratory: Laboratoire BFB oil research S. A. Report no.: 15728. Owner company: Diester Industrie.

Defleur P (1999b). Ester methylique de colza - Etude eco toxicoloogique pour determinatiion du WGK. Testing laboratory: BfB Oil Research S. A. Report no.: 15728. Owner company: Diester Industrie.

Defleur P (1999c). Ester methylique de colza. Etude eco toxicologique puor determination du WGK. Testing laboratory: Laboratoire BFB oil research S. A. Report no.: 15728. Owner company: Diester Industries.

Dr. Van Dievoet (1999). Etude toxicologique. Testing laboratory: BFB oil research. Owner company: BFB oil research. Study number: 14447.

Fina Research (1997). Assessment of the bioconcentration factor (BCF) of the fluid (67762-26-9) in the blue Mussel *Mytilus edulis*. Testing laboratory: Fina Research Laboratories. Report no.: ERT 97/241. Owner company: Fina Research. Study number: 184-6-2.

Gancet C (2009a). Fatty acids, C16-C18 and C18 unsaturated, methyl esters - Estimation of Adsorption Coefficient (Koc) on Soil and Sewage Sludge. Testing laboratory: Arkema Groupement de Recherches de Lacq - Analysis department. Report no.: 0066/09/A1. Owner company: Arkema France. Report date: 2010-01-14.

Gancet C (2009b). Fatty acids, C16 C18 and C18 unsaturated, methyl esters - fish(Danio, rerio), acute toxicity test under semistatic conditions. Testing laboratory: Groupment de rechrces de LACQ (GRL). Report no.: 0048/08/B. Owner company: Arkema. Report date: 2009-08-20.

Haddouk H. (1999). Bacterial reverse mutation test. Testing laboratory: CIT. Report no.: 18051 MMO. Owner company: ARKEMA former ATOCHEM. Report date: 1999-07-27.

Haddouk H. (2000). In vitro mammalian chromosome aberration test in cultured human lymphocytes. Testing laboratory: CIT. Report no.: 19877MLH. Owner company: ARKEMA former Elf Atochem SA. Report date: 2000-12-08.

Fatty Acid Methyl Ester (FAME / Biodiesel)

Assigned to 'Fatty acids, C16-18 and C18-unsatd., methyl esters' and 'Vegetable oil, methyl esters'

Jackson D., Ogilvie S: (1994). Acute Dermal Toxicity (Limit) Test in Rabbit. Testing laboratory: Inveresk Research International. Report no.: 555703:94018/COCH:10482.

Kaysen A. (1984a). METILOIL A. Evaluation de la toxicité aiguë chez le rat par voie orale. Testing laboratory: CIT. Report no.: 576 TAR. Owner company: ARKEMA former ATOCHEM. Report date: 1984-08-08.

Kaysen A. (1984b). METILOIL A. Evaluation de l'irritation cutanée chez le lapin. Testing laboratory: CIT. Report no.: 577 TAL. Owner company: ARKEMA former ATOCHEM. Report date: 1984-07-31.

Kaysen A. (1984c). METILOIL A. Evaluation de l'irritation oculaire chez le lapin. Testing laboratory: CIT. Report no.: 578 TAL. Owner company: ARKEMA former ATOCHEM. Report date: 1984-07-30.

Kenneth May (2008). Bacterial Reverse Mutation Test. Testing laboratory: Huntingdon Life Sciences. Owner company: Perstorp Specialty Chemicals AB. Study number: PGF0001. Report date: 2008-09-02.

Kiaer H. W., Arffmann, Glavind (1975). Carcinogenicity in mice of some fatty acid methyl esters. 2. Peroral and subcutaneous application. Acta Pathol Microbiol Scand A. 1975 Sep;83(5):550-8.

L'Haridon J (2003). Esterol A, Algal inhibition test. Testing laboratory: CIT, Evreux, France. Report no.: 23691. Owner company: Arkema formerly Atofina. Report date: 2003-04-02.

Manciaux X. (1999). Skin sensitization test in guinea-pigs (Maximization method of Magnusson, B. and Kligman, A. M.). Testing laboratory: CIT. Report no.: 18050. Owner company: ARKEMA former Elf Atochem S. A. Report date: 1999-08-20.

Mattson F. H. (1972). Hydrolysis of fully esterified alcohols containing from one to eight hydroxyl groups by the lipolytic enzymes of rat pancreatic juice. Journal of Lipid Research Volume 13, 1972.

Murray T. K., Campbell J. A., Hopkins C. Y., Chisholm M. J. (1958). The effect of mono-enoic fatty acid esters on the growth and fecal lipides of rats. Journal of the American Oil Chemists' Society, 35, 156-158.

Renner H. W. (1986). The anticlastogenic potential of fatty acid methyl esters. Mutation Research/Genetic Toxicology Volume 172, Issue 3, December 1986, Pages 265-269.

Stolz, JF, Follis, P, Donofrio, R, Buzzelli, J, Griffin, M (1995). Aerobic and Anaerobic Biodegradation of the Methyl Esterified Fatty Acids of Soy Diesel in Freshwater and Soil Environments. www.biodiesel.org/resources/reportsdatabase/viewall.asp. Testing laboratory: Duquesne University, Pittsburg.

Swern D et al (1970). Investigation of Fatty Acids and Derivatives for Carcinogenic Activity. CANCER RESEARCH 30, 1037-1046, April 1970.

Thiebaud H (1997). Esterol A Toxicité aigüe vis à vis des daphnies. Testing laboratory: DCRD Centre d'Application de Levallois, Service Analyse Environnement. Report no.: 97-SAEK/1356/CKE. Owner company: Arkema formerly ELF ATOCHEM S. A. Study number: 3714/94/A. Report date: 1997-11-06.

Thiébaud H (1995). Esterol A, détermination de la biodégradabilité facile, essai de dégagement de CO2. Testing laboratory: DCRD, Centre d'application de Levallois, Service Analyse Environnement. Report no.: 3714/94/B. Owner company: Arkema formerly ELF ATOCHEM S. A. Report date: 1995-04-21.

Van Divoet (1999). Etude toxicologique. Testing laboratory: BFB research. Owner company: BFB research. Study number: do data. Report date: 2000-07-21.

Wertz. W, Downing D. T. (1990). Metabolism of topically applied fatty acid methyl esters in BALB/C mouse epidermis. Journal of dermatological science, 1 (1990) 33-38 - Elsevier.

Fatty Acid Methyl Ester (FAME / Biodiesel)

Assigned to 'Fatty acids, C16-18 and C18-unsatd., methyl esters' and 'Vegetable oil, methyl esters'

Zhang X., Peterson C. L., Reece D., Möller G., Haws R. (1998). Biodegradability of Biodiesel in the Aquatic Environment. Testing laboratory: Analytical Science Lab, Food Science and Toxicology. Owner company: University of Idaho, USA.

Haddouk H. (1999). Bacterial reverse mutation test. Testing laboratory: CIT. Report no.: 18051
MMO Owner company: ARKEMA former ATOCHEM Report date: 1999-07-27

Thiébaud H (1995). Esterol A, détermination de la biodégradabilité facile, essai de dégagement de CO₂. Testing laboratory: DCRD, Centre d'application de Levallois, Service Analyse Environnement. Report no.: 3714/94/B. Owner company: Arkema formerly ELF ATOCHEM S. A. Report date: 1995-04-21.

Van Divoet (1999). Etude toxicologique. Testing laboratory: BFB research. Owner company: BFB research. Study number: do data. Report date: 2000-07-21.

Wertz. W, Downing D. T. (1990). Metabolism of topically applied fatty acid methyl esters in BALB/C mouse epidermis. Journal of dermatological science, 1 (1990) 33-38 - Elsevier.

Zhang X., Peterson C. L., Reece D., Möller G., Haws R. (1998). Biodegradability of Biodiesel in the Aquatic Environment. Testing laboratory: Analytical Science Lab, Food Science and Toxicology. Owner company: University of Idaho, USA.