Mixed fatty acid

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

1.1. Product identifier

Trade name/designation:

Mixed fatty acid

Other means of identification:

Mixed Fatty Acid

Article No:
3180

REACH No.:
01-2119988505-24-0012

EC No.:
939-235-7

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

Use of the substance/mixture:

Intermediate
- Use as intermediate in order to recover the constituents (closed process)
- Direct conversion to other chemicals including biochemical processes (closed processes)

Not recommended or not permitted: Consumer uses

Relevant identified uses:

Life cycle stage [LCS]
M: Manufacture
IS: Use at industrial sites

Sector of uses [SU]
SU 0: Other

Product Categories [PC]
PC 19: Intermediate (precursor)

Process categories [PROC]
PROC 1: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions

Environmental release categories [ERC]
ERC 1: Manufacture of the substance
ERC 6a: Use of intermediate

Article categories [AC]
AC 0: Other

1.3. Details of the supplier of the safety data sheet

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

German Biofuels GmbH
Am Hünengrab 9
16928 Pritzwalk/Germany
Germany
Telephone: +49 33986 5050
Telefax: +49 33986 50599
E-mail: info@gbfgmbh.de

1.4. Emergency telephone number

Produktion/Production, 24h: +49 172 56 82 831, +49 33986 50582 (Only available during office hours.)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

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

Additional information:

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

Mixed fatty acid

Additional information: Low hazard when properly handled.

2.2. Label elements

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

Precautionary statements Prevention	
P280	Wear protective gloves/protective clothing.

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

3.1. Substances

Description:
The substance consists mainly of saturated and unsaturated fatty acids (typical chain length C16-C18), related methyl esters and small concentrations of methanol.

Additional information:
Methanol is the toxicologically most relevant constituent in the mixture. However, due to the low concentration effects are to be expected only after the ingestion of large quantities or with prolonged inhalation exposure.

Hazardous ingredients / Hazardous impurities / Stabilisers:

Product identifiers	Substance name Classification according to Regulation (EC) No 1272/2008 [CLP]	Concentration
CAS No.: 67-56-1 EC No.: 200-659-6 Index No.: 603-001-00-X REACH No.: 01-2119433307-44-XXXX	**methanol** Acute Tox. 3 (H331, H311, H301), Flam. Liq. 2 (H225), STOT SE 1 (H370**)  Danger **Specific concentration limit (SCL)** STOT SE 1; H370: C ≥ 10% STOT SE 2; H371: 3% ≤ C < 10% **Acute Toxicity Estimate** ATE (oral) 5,628 mg/kg ATE (dermal) 17,100 mL/kg ATE (inhalation, gases) 85.26 mg/L	≥ 0 – < 1 %

Full text of H- and EUH-phrases: see section 16.

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:
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Following ingestion:
Do NOT induce vomiting.
Rinse mouth thoroughly with water.
Never give anything by mouth to an unconscious person or a person with cramps.

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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 information available.

SECTION 5: Firefighting measures

5.1. Extinguishing media
Suitable extinguishing media:
Carbon dioxide (CO2)
alcohol resistant foam
Water mist
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: Wear a self-contained breathing apparatus and chemical protective clothing.

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.
Special danger of slipping by leaking/spilling product.

Protective equipment:
Refer to section 5

6.1.2. For emergency responders
Personal protection equipment:
Refer to section 5

6.2. Environmental precautions
Make sure spills can be contained, e.g. in sump pallets or kerbed areas.
Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.
Delivery to an approved waste disposal company.

6.3. Methods and material for containment and cleaning up
For cleaning up:
Take up with oil-absorbing compound.
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

Mixed fatty acid

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:

Technical measures to prevent exposure
Direct contact with the substance should be avoided.
When using do not eat, drink or smoke.
Used working clothes should not be worn outside the work area.
Wash hands and face before breaks and after work and take a shower if necessary.

*

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 - No smoking.

Hints on storage assembly:

Keep away from: Oxidising agent

Storage class (TRGS 510, Germany): 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, the material may solidify.

7.3. Specific end use(s)

Recommendation:

Intermediate - not intended for end use.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1. Occupational exposure limit values

Limit value type (country of origin)	Substance name	① Long-term occupational exposure limit value ② Short-term occupational exposure limit value ③ Instantaneous value ④ Monitoring and observation processes ⑤ Remark
IOELV (EU)	**methanol** CAS No.: 67-56-1 EC No.: 200-659-6	① 200 ppm (260 mg/m³) ⑤ (may be absorbed through the skin)
TRGS 900 (DE) from 13 Mar 2020	**methanol** CAS No.: 67-56-1 EC No.: 200-659-6	① 100 ppm (130 mg/m³) ② 200 ppm (260 mg/m³) ⑤ (kann über die Haut aufgenommen werden) DFG, EU, H, Y

8.1.2. Biological limit values

Limit value type (country of origin)	Substance name	Limit value	① Parameter ② Test material ③ Time of sampling: ④ Remark
TRGS 903 (DE) from 10 Oct 2024	**methanol** CAS No.: 67-56-1 EC No.: 200-659-6	15 mg/L	① Methanol ② Urin ③ Expositionsende bzw. Schichtende

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8.1.3. DNEL-/PNEC-values

Substance name	DNEL value	① DNEL type ② Exposure route
methanol CAS No.: 67-56-1 EC No.: 200-659-6	130 mg/m³	① DNEL worker ② Long-term – inhalation, systemic effects
methanol CAS No.: 67-56-1 EC No.: 200-659-6	130 mg/m³	① DNEL worker ② Acute - inhalation, systemic effects
methanol CAS No.: 67-56-1 EC No.: 200-659-6	130 mg/m³	① DNEL worker ② Long-term – inhalation, local effects
methanol CAS No.: 67-56-1 EC No.: 200-659-6	130 mg/m³	① DNEL worker ② Acute - inhalation, local effects
methanol CAS No.: 67-56-1 EC No.: 200-659-6	20 mg/kg bw/ day	① DNEL worker ② Long-term - dermal, systemic effects
methanol CAS No.: 67-56-1 EC No.: 200-659-6	20 mg/kg bw/ day	① DNEL worker ② Acute – dermal, systemic effects

Substance name	PNEC Value	① PNEC type ② Exposure time
methanol CAS No.: 67-56-1 EC No.: 200-659-6	20.8 mg/L	① PNEC aquatic, freshwater ② 24 h
methanol CAS No.: 67-56-1 EC No.: 200-659-6	2.08 mg/L	① PNEC aquatic, marine water ② 24 h
methanol CAS No.: 67-56-1 EC No.: 200-659-6	100 mg/L	① PNEC sewage treatment plant ② 24 h
methanol CAS No.: 67-56-1 EC No.: 200-659-6	77 mg/kg	① PNEC sediment, freshwater ② 24 h
methanol CAS No.: 67-56-1 EC No.: 200-659-6	7.7 mL/kg	① PNEC sediment, marine water ② 24 h
methanol CAS No.: 67-56-1 EC No.: 200-659-6	100 mg/kg	① PNEC soil ② 24 h

8.2. Exposure controls

8.2.1. Appropriate engineering controls

No

8.2.2. Personal protection equipment

Eye/face protection:

Wear eye/face protection.

Skin protection:

Hand protection: Required properties: liquid-tight Breakthrough times and swelling properties of the material must be taken into consideration.
Suitable material: NBR (Nitrile rubber) FKM (fluoro rubber)

Respiratory protection:

Respiratory protection necessary at: aerosol or mist formation

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Other protection measures:
General health and safety measures: Wash hands before breaks and after work.
Wash contaminated clothing before reuse.
Boots (Suitable material: PVC)

8.2.3. Environmental exposure controls
No data available

8.3. Additional information
DNEL and PNECs: See annex

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance
Physical state: Liquid
Colour: dark brown
Odour: mild - characteristic
flammability: Yes

Safety relevant basis data

Parameter	Value	at °C	① Method ② Remark
pH	*not applicable*		② Dissolved substance quantity: < 0.023 mg/l
Melting point	-17 – 16 °C		① DIN ISO 3016
Freezing point	*No data available*		
Initial boiling point and boiling range	350 – 535 °C		① ASTM D 7169 ② pressure: 1013 mbar
Flash point	> 60 °C		① EN ISO 2719
Evaporation rate	*No data available*		
Auto-ignition temperature	*No data available*		
Upper/lower flammability or explosive limits	*not applicable*		
Vapour pressure	6 – 15 mbar	25 °C	① EN 13016-1
Vapour density	*No data available*		
Density	870 – 900 kg/m³	15 °C	① EN ISO 3675
Bulk density	*not applicable*		
Water solubility	0.023 mg/L		
Partition coefficient: n-octanol/water	6.2		① OECD 107
Dynamic viscosity	5.5 – 8 mPa* s	40 °C	① EN ISO 3104
Kinematic viscosity	*No data available*		

9.2. Other information
The statement is derived from products of similar composition.
Oxidising properties: Not oxidising.

SECTION 10: Stability and reactivity

10.1. Reactivity
No hazardous reaction when handled and stored according to provisions.

10.2. Chemical stability
Substance is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.
When hot, product develops flammable vapours.

10.3. Possibility of hazardous reactions
The substance reacts with strong bases to form methanol.

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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 hazard classes as defined in Regulation (EC) No 1272/2008**

methanol CAS No.: 67-56-1 EC No.: 200-659-6
LD_{50} oral: 5,628 mg/kg (Rat) OECD
LD_{50} dermal: 17,100 mL/kg (Rabbit) OECD
LC_{50} Acute inhalation toxicity (gas): 85.26 mg/L 4 h (Rat) OECD

Acute oral toxicity:
(FAME)
Acute toxicity (oral): LD_{50}: > 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:
(FAME)
Acute toxicity (oral): LD_{50}: > 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:
(FAME)
Acute toxicity (oral): LD_{50}: > 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

Skin corrosion/irritation:
(FAME)
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:
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:
(FAME)
Respiratory sensitation: No information but no respiratory sensitation is expected.

Skin sensitation: 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)

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

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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:
(FAME)
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.

Reproductive toxicity:
FAME: Repeated dose toxicity (subacute, subchronic, chronic): (FAME)
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:
STOT-single exposure: No information available.

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

Aspiration hazard:
-

Additional information:
Methanol is the toxicologically most relevant constituent in the mixture. However, due to the low concentration effects are to be expected only after the ingestion of large quantities or with prolonged inhalation exposure.

* 11.2. Information on other hazards

Endocrine disrupting properties:
This substance does not have endocrine disrupting properties with respect to humans.

SECTION 12: Ecological information

12.1. Toxicity

Aquatic toxicity:
Methanol:
EC_{50} Entisiphon sulcatum (72 h): 10000 mg/l
EC_{50} Daphnia magna (48 h): 10000 mg/l

Methyl ester:
EC_{50} (48 h): 2504 mg/l Methode: OECD 202
EC_{50} (72 h): 73729 mg/l Methode: OECD 201

Terrestrial toxicity:
Methanol:
LC_{50}: (freshwater fish) 10000 mg/l
LC_{50}: Pseudokirchneriella subcapitana 22000 mg/l
Methyl ester:
LC_{50}: (freshwater fish) 100000 mg/l

Effects in sewage plants:
Separation into skimmer fraction.

Additional ecotoxicological information:
In environmental toxicity the properties are dominated by the content of fatty acid methyl esters. The properties of methanol have only secondary impact due to the low concentration.

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12.2. Persistence and degradability

Additional information:

Further ecological information: Fatty acids, methyl esters of fatty acids and methanol 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

Accumulation / Evaluation:

Fatty acids, methyl esters of fatty acids and methanol 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 Koc > 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.
The statement is derived from products of similar composition.

12.5. Results of PBT and vPvB assessment

methanol CAS No.: 67-56-1 EC No.: 200-659-6
Results of PBT and vPvB assessment: —

Fatty acids, C16-18 and C18-unsatd., its methyl esters and methanol are not regarded as PBT or vPvB based on physicochemical, environmental and toxicological properties. Fatty acids, C16-18 and C18-unsatd., its methyl esters and methanol are not regarded as P or vP based on readily biodegradability. Fatty acids, C16-18 and C18-unsatd., its methyl esters and methanol are 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. Endocrine disrupting properties

This substance does not have endocrine disrupting properties with respect to non-target organisms.

12.7. 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

02 03 04	(02) WASTES FROM AGRICULTURE, HORTICULTURE, AQUACULTURE, FORESTRY, HUNTING AND FISHING, FOOD PREPARATION AND PROCESSING (03) Wastes from fruit, vegetables, cereals, edible oils, cocoa, coffee, tea and tobacco preparation and processing conserve production; yeast and yeast extract production, molasses preparation and fermentation (04) Materials unsuitable for consumption or processing
07 01 99	(07) WASTES FROM ORGANIC CHEMICAL PROCESSES (01) Wastes from the manufacture, formulation, supply and use (MFSU) of basic organic chemicals (99) wastes not otherwise specified

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07 06 99	(07) WASTES FROM ORGANIC CHEMICAL PROCESSES (06) Wastes from the MFSU of fats, grease, soaps, detergents, disinfectants and cosmetics (99) Wastes not otherwise specified

SECTION 14: Transport information

Land transport (ADR/RID)	Inland waterway craft (ADN)	Sea transport (IMDG)	Air transport (ICAO-TI / IATA-DGR)
14.1. UN number or ID number			
No dangerous good in sense of these transport regulations.	No dangerous good in sense of these transport regulations.	No dangerous good in sense of these transport regulations.	No dangerous good in sense of these transport regulations.
14.2. UN proper shipping name			
No dangerous good in sense of these transport regulations.	No dangerous good in sense of these transport regulations.	No dangerous good in sense of these transport regulations.	No dangerous good in sense of these transport regulations.
14.3. Transport hazard class(es)			
not relevant	not relevant	not relevant	not relevant
14.4. Packing group			
not relevant	not relevant	not relevant	not relevant
14.5. Environmental hazards			
not relevant	not relevant	not relevant	not relevant
14.6. Special precautions for user			
not relevant	not relevant	not relevant	not relevant

14.7. Maritime transport in bulk according to IMO instruments

Not yet classified.
Default (without application to IMO): Pollution Category X

Additional information:

Low hazard when properly handled.

SECTION 15: Regulatory information

*

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

15.1.1. EU legislation

Synthetic polymer microparticles

The synthetic polymer microparticles supplied is subject to conditions laid down by entry 78 of Annex XVII to Regulation (EC) No 1907/2006.
No synthetic microparticles are present.

Other regulations (EU):

Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances [Seveso-III-Directive]: This product is not assigned to a hazard category.

Named dangerous substances:
- Methanol

Directive 2004/42/EC on the limitation of emissions of volatile organic compounds:

Volatile organic compound (VOC) content: 1 weight-%

15.1.2. National regulations

[DE] National regulations

Restrictions of occupation

No

Störfallverordnung (12. BImschV)

for substances contained in the product:

This product is not assigned to a hazard category.

Named dangerous substances:

- Methanol

Water hazard class

WGK:
1 - slightly hazardous to water

Source:
Self-classification according to AwSV (substance).

Other regulations, restrictions and prohibition regulations
No

15.2. Chemical Safety Assessment
CSA has been carried out.

SECTION 16: Other information

16.1. Indication of changes

7.2.	Conditions for safe storage, including any incompatibilities
11.1.	Information on hazard classes as defined in Regulation (EC) No 1272/2008
11.2.	Information on other hazards
15.1.	Safety, health and environmental regulations/legislation specific for the substance or mixture

16.2. Abbreviations and acronyms

AC	Article Category
ACGIH	American Conference of Governmental Industrial Hygienists
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ASTM	American Society for Testing and Materials
CAS	Chemical Abstracts Service
CLP	Classification, Labelling and Packaging
CSA	Chemical Safety Assessment
DIN	German Institute for Standardization / German Industrial Standard
DNEL	derived no-effect level
EN	European Standard
ERC	Environmental Release Category
ES	Exposure scenario
EWC	European Waste Catalogue
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods
IMO	International Maritime Organization
ISO	International Standards Organisation
KG	body weight
LC_{50}	Lethal (fatal) Concentration 50%
LD_{50}	Lethal (fatal) Dose 50%
MAK	Maximum concentration in the workplace air (CH)
NFPA	National Fire Protection Association
NIOSH	National Institute for Occupational Safety & Health
OECD	Organisation for Economic Cooperation and Development
OEL	Threshold Limit Value
OSHA	Occupational Safety & Health Administration
PBT	persistent and bioaccumulative and toxic
PC	Product category
PNEC	Predicted No Effect Concentration
PROC	Process Category
REACH	Registration, Evaluation and Authorization of Chemicals
RID	Dangerous goods regulations for transport by rail
SCL	Specific concentration limit
SU	use category
TRGS	Technische Regeln für Gefahrstoffe
UN	United Nations

VOC Volatile organic compounds
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
IMO: International Maritime Organisation/London

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]

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

16.5. List of relevant hazard statements and/or precautionary statements from sections 2 to 15

Hazard statements	
H225	Highly flammable liquid and vapour.
H301	Toxic if swallowed.
H311	Toxic in contact with skin.
H331	Toxic if inhaled.
H370	Causes damage to organs.
H371	May cause damage to organs.

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 2015/830/EU) has been used.
Given data sheets are based on our present experiences, however they are no assurance of product properties and do not justify a contractual legal relationship.

* Data changed compared with the previous version.

Extension to section 8.1

DNELs and PNECs for the substance			
Fatty acids, C16-18 and C18-unsatd., methyl esters			
DNELs			
Population/route		*Exposure pattern*	*Value*
Workers	Inhalation	Long-term systemic effects	6.96 mg/m^3
	Dermal	Long-term systemic effects	10 mg/kg bw/day
Consumers	Inhalation	Long-term systemic effects	23 mg/m^3
	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

DNELs and PNECs for the substance			
Methanol			
DNELs			
Population/route		*Exposure pattern*	*Value*
Workers	Inhalation	Long-term systemic effects / acute/short-term exposure - local effects	260 mg/m^3
	Dermal	Long-term systemic effects / acute/short-term exposure - local effects	40 mg/kg bw/day
Consumers	Inhalation	Long-term systemic effects / acute/short-term exposure - local effects	50 mg/m^3
	Dermal	Long-term - systemic effects/acute/short-term exposure - local effects	8 mg/kg bw/day
	Oral	Long-term - systemic effects/acute/short-term exposure - local effects	8 mg/kg bw/day
PNECs			
Compartment			*Value*
Water	Freshwater		154 mg/l
	Marine water		15.4 mg/l
	Intermittent releases		1540 mg/l
Sediment			570.4 mg/kg dw
Soil			23.5mg/kg dw
Sewage treatment			100 mg/L
Secondary poisoning			Not relevant

Extension to section 16. (Literature)

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