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Safety Data Sheet acc. to OSHA HCS

Printing date 03/14/2023 Revision date 03/14/2023

1 Identification

· Product identifier

· Trade name: Fatty Acid Methyl ester GC-MS Mixture

· Article number: 20503

· Restrictions

This chemical/product is not and cannot be distributed in commerce (as defined in TSCA section 3(5)) or processed (as defined in TSCA section 3(13)) for consumer paint or coating removal.

· Application of the substance / the mixture

This product is for research use - Not for human or veterinary diagnostic or therapeutic use.

- · Details of the supplier of the safety data sheet
- Manufacturer/Supplier:

Cayman Chemical Co. 1180 E. Ellsworth Rd. Ann Arbor, MI 48108

USA

· Information department: Product safety department

· Emergency telephone number:

During normal opening times: +1 (734) 971-3335

US/CANADA: 800-424-9300 Outside US/CANADA: 703-741-5970

2 Hazard(s) identification

· Classification of the substance or mixture



GHS08 Health hazard

Germ Cell Mutagenicity 2 H341 Suspected of causing genetic defects.

Carcinogenicity 2 H351 Suspected of causing cancer.

Specific Target Organ Toxicity - Repeated Exposure H372 Causes damage to organs through prolonged or repeated exposure.



Acute Toxicity - Oral 4

Skin Irritation 2

Eye Irritation 2A

Sensitization - Skin 1

H302 Harmful if swallowed.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H317 May cause an allergic skin reaction.

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Specific Target Organ Toxicity - Single Exposure 3 H335 May cause respiratory irritation.

- · Label elements
- · GHS label elements

The product is classified and labeled according to the Globally Harmonized System (GHS).

· Hazard pictograms





GHS07 GHS08

· Signal word Danger

· Hazard-determining components of labeling:

Dichloromethane

(6Z,9Z,12Z,15Z)-6,9,12,15-Octadecatetraenoic acid methyl ester

Stearic Acid methyl ester

Hazard statements

H302 Harmful if swallowed.

H315 Causes skin irritation.

H319 Causes serious eve irritation.

H317 May cause an allergic skin reaction.

H341 Suspected of causing genetic defects.

H351 Suspected of causing cancer.

H335 May cause respiratory irritation.

H372 Causes damage to organs through prolonged or repeated exposure.

Precautionary statements

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.

P260 Do not breathe dust/fume/gas/mist/vapors/spray.

P264 Wash thoroughly after handling.

P270 Do not eat, drink or smoke when using this product. P271 Use only outdoors or in a well-ventilated area.

P272 Contaminated work clothing must not be allowed out of the workplace.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

P301+P312 If swallowed: Call a poison center/doctor if you feel unwell.

P330 Rinse mouth.

P302+P352 If on skin: Wash with plenty of water.

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if

present and easy to do. Continue rinsing.

P308+P313 IF exposed or concerned: Get medical advice/attention.

P321 Specific treatment (see on this label).

P314 Get medical advice/attention if you feel unwell.

P362+P364 Take off contaminated clothing and wash it before reuse.
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.

P337+P313 If eye irritation persists: Get medical advice/attention.

P363 Wash contaminated clothing before reuse.

P403+P233 Store in a well-ventilated place. Keep container tightly closed.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international

regulations.

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· Classification system:

NFPA ratings (scale 0 - 4)



Health = 2 Fire = 0 Reactivity = 0

· HMIS-ratings (scale 0 - 4)



2 Health = 2 Fire = 0

· Other hazards

· Results of PBT and vPvB assessment

· **PBT:** Not applicable. · **vPvB:** Not applicable.

3 Composition/information on ingredients

· Chemical characterization: Mixtures

· **Description:** Mixture of the substances listed below with nonhazardous additions.

· Dangerous compon		
CAS: 75-09-2 RTECS: PA8050000	Dichloromethane	98.0%
CAS: 111-82-0 RTECS: OF0670000	Dodecanoic acid, Methyl ester (Methyl laurate; Methyl dodecanoate)	0.1%
CAS: 112-61-8 RTECS: WI4460000	Stearic Acid methyl ester	0.1%
CAS: 73097-00-4	(6Z,9Z,12Z,15Z)-6,9,12,15-Octadecatetraenoic acid methyl ester	0.1%
· Other ingredients		
CAS: 112-39-0 RTECS: ML9720000	Palmitic Acid methyl ester	0.1%
CAS: 112-62-9 RTECS: RK0895000	Methyl oleate	0.1%
CAS: 112-63-0	Linoleic Acid methyl ester	0.1%
CAS: 124-10-7	Tetradecanoic acid, Methyl ester	0.1%
CAS: 301-00-8	α-Linolenic Acid methyl ester	0.1%
CAS: 1120-25-8	(9Z)-hexadecenoic acid, methyl ester	0.1%
CAS: 2566-89-4	Arachidonic Acid methyl ester	0.1%
CAS: 2566-90-7	Docosahexaenoic Acid methyl ester	0.1%
CAS: 2734-47-6	Methyl Eicosapentaenoate	0.1%
CAS: 16326-32-2	γ-Linolenic Acid methyl ester	0.1%
CAS: 21061-10-9	Dihomo-γ-Linolenic Acid methyl ester	0.1%
CAS: 61012-46-2	Eicosadienoic Acid methyl ester	0.1%
CAS: 62472-96-2	11(Z),14(Z),17(Z)-Eicosatrienoic Acid methyl ester	0.1%
CAS: 65919-53-1	Heneicosapentaenoic Acid methyl ester	0.1%
CAS: 108698-02-8	Docosapentaenoic Acid methyl ester	0.1%
CAS: 132712-70-0	.omega3 Arachidonic Acid methyl ester	0.1%

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cis-4,10,13,16-Docosatetraenoic Acid methyl ester

0.1%

4 First-aid measures

- Description of first aid measures
- · General information:

Immediately remove any clothing soiled by the product.

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

· After inhalation:

Supply fresh air and to be sure call for a doctor.

In case of unconsciousness place patient stably in side position for transportation.

- · After skin contact: Immediately wash with water and soap and rinse thoroughly.
- · After eve contact:

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

- · After swallowing: Immediately call a doctor.
- · Information for doctor:
- · Most important symptoms and effects, both acute and delayed

No further relevant information available.

Indication of any immediate medical attention and special treatment needed

No further relevant information available.

5 Fire-fighting measures

- · Extinguishing media
- · Suitable extinguishing agents:

Use fire fighting measures that suit the environment.

A solid water stream may be inefficient.

· Special hazards arising from the substance or mixture

67-56-1During heating or in case of fire poisonous gases are produced.

- Advice for firefighters
- · Protective equipment: Mouth respiratory protective device.

6 Accidental release measures

· Personal precautions, protective equipment and emergency procedures

Mount respiratory protective device.

- Environmental precautions: Do not allow to enter sewers/ surface or ground water.
- Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

- · Protective Action Criteria for Chemicals
- · PAC-1:

75-09-2 Dichloromethane

200 ppm

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 • PAC-2:
 560 ppm

 75-09-2 Dichloromethane
 560 ppm

 • PAC-3:
 6,900 ppm

7 Handling and storage

- Handling:
- · Precautions for safe handling

Ensure good ventilation/exhaustion at the workplace.

Open and handle receptacle with care.

Prevent formation of aerosols.

Information about protection against explosions and fires:

Keep respiratory protective device available.

- Conditions for safe storage, including any incompatibilities
- · Storage: Store in accordance with information listed on the product insert.
- · Requirements to be met by storerooms and receptacles: No special requirements.
- Information about storage in one common storage facility: Not required.
- Further information about storage conditions: Keep receptacle tightly sealed.
- · Specific end use(s) No further relevant information available.

8 Exposure controls/personal protection

- · Additional information about design of technical systems: No further data; see item 7.
- · Control parameters
- · Components with limit values that require monitoring at the workplace:

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit.

At this time, the other constituents have no known exposure limits.

75-09-2 Dichloromethane

PEL Short-term value: 125 ppm Long-term value: 25 ppm see 29 CFR 1910.1052 REL See Pocket Guide App. A TLV Long-term value: 50 ppm BEI, A3

112-61-8 Stearic Acid methyl ester

TLV Long-term value: 10* 3** mg/m³
A4; Fraction: *inhalable **respirable

Ingredients with biological limit values:

75-09-2 Dichloromethane

BEI 0.3 ma/L

Medium: urine Time: end of shift

Parameter: Dichloromethane (semi-quantitative)

· Additional information: The lists that were valid during the creation were used as basis.

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- · Exposure controls
- Personal protective equipment:
- General protective and hygienic measures:

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Store protective clothing separately.

Avoid contact with the eyes and skin.

· Breathing equipment:

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

· Protection of hands:



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eye protection:

Safety glasses



Tightly sealed goggles

9 Physical and chemical properties

- Information on basic physical and chemical properties
- · General Information
- · Appearance:

Form: Liquid

Color: According to product specification

Odor: Like chlorineOdor threshold: Not determined.

• Formulation A solution in dichloromethane (1 mg/ml each compound)

· **pH-value:** Not determined.

· Change in condition

Melting point/Melting range: -95.1 °C (-139.2 °F)

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Boiling point/Boiling range:	40 °C (104 °F)
· Flash point:	Not applicable.
Flammability (solid, gaseous):	Not applicable.
Auto igniting:	605 °C (1,121 °F)
Decomposition temperature:	Not determined.
Ignition temperature:	Product is not selfigniting.
Danger of explosion:	Product does not present an explosion hazard.
Explosion limits:	
Lower:	13 Vol %
Upper:	22 Vol %
Vapor pressure at 20 °C (68 °F):	453 hPa (339.8 mm Hg)
Density at 20 °C (68 °F):	1.33 g/cm³ (11.09885 lbs/gal)
Relative density	Not determined.
Vapor density	Not determined.
Evaporation rate	Not determined.
Solubility in / Miscibility with	
Water at 20 °C (68 °F):	20 g/l
Partition coefficient (n-octanol/wat	er): Not determined.
Viscosity:	
Dynamic at 20 °C (68 °F):	0.43 mPas
Kinematic:	Not determined.
Solvent content:	
Organic solvents:	98.0 %
VOC content:	0.00 %
	0.0 g/l / 0.00 lb/gal
Solids content:	0.7 %
Other information	No further relevant information available.

10 Stability and reactivity

- · Reactivity No further relevant information available.
- · Chemical stability
- Thermal decomposition / conditions to be avoided:

No decomposition if used according to specifications.

- · Possibility of hazardous reactions No dangerous reactions known.
- · Conditions to avoid No further relevant information available.
- · Incompatible materials: strong oxidizing agents
- · Hazardous decomposition products: carbon dioxide, carbon monoxide

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11 Toxicological information

- · Information on toxicological effects
- · Acute toxicity:

· LD/LC50 values that are relevant for classification:			
ATE (Acu	ATE (Acute Toxicity Estimate)		
Oral	LD50	383 mg/kg (rat)	
Dermal	LD50	5,000 mg/kg	
Inhalative	LC50/4 h	50 mg/l	
75-09-2 D	75-09-2 Dichloromethane		

75-09-2 D	ichloromethane	
Oral		357 mg/kg (hmn)
	LD50	1,600 mg/kg (rat)
	TDLO	1,429 µL/kg (man)
Inhalative		88 mg/l (rat)
	Intraperitoneal LD50	916 mg/kg (rat)
		6,460 mg/kg (mouse)

111-82-0 Dodecanoic acid, Methyl ester (Methyl laurate; Methyl dodecanoate)

Intravenous LDLO 48 mg/kg (mouse)

112-61-8 Stearic Acid methyl ester

Subcutaneous TDLO 5,200 mg/kg/26W intermittent (mouse)

- · Primary irritant effect:
- on the skin: Irritant to skin and mucous membranes.
- · on the eye: Irritating effect.
- · Sensitization: Sensitization possible through skin contact.
- Additional toxicological information:

The product shows the following dangers according to internally approved calculation methods for preparations:

Harmful Irritant

· Carcinogenic categories

· IARC (International Agency for Research on Cancer)		
75-09-2 Dichloromethane	2A	
· NTP (National Toxicology Program)		
75-09-2 Dichloromethane	R	
· OSHA-Ca (Occupational Safety & Health Administration)		
75-09-2 Dichloromethane		

12 Ecological information

- · Toxicity
- · Aquatic toxicity: No further relevant information available.
- · Persistence and degradability No further relevant information available.
- Behavior in environmental systems:
- · Bioaccumulative potential No further relevant information available.
- · Mobility in soil No further relevant information available.

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· Additional ecological information:

· General notes:

Water hazard class 2 (Self-assessment): hazardous for water

Do not allow product to reach ground water, water course or sewage system.

Danger to drinking water if even small quantities leak into the ground.

- Results of PBT and vPvB assessment
- · PBT: Not applicable.
- · vPvB: Not applicable.
- Other adverse effects No further relevant information available.

13 Disposal considerations

- · Waste treatment methods
- · Recommendation:

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

- · Uncleaned packagings:
- · Recommendation: Disposal must be made according to official regulations.

UN-Number DOT, IMDG, IATA	UN1593	
UN proper shipping name DOT, IATA IMDG	Dichloromethane DICHLOROMETHANE	
Transport hazard class(es)		
DOT		
TOXIC		
Class	6.1 Toxic substances	
Label	6.1	
IMDG, IATA		
2		
Class	6.1 Toxic substances	
Label	6.1	
Packing group DOT, IMDG, IATA	III	
Environmental hazards:	Not applicable.	
Special precautions for user Hazard identification number (Kemle	Warning: Toxic substances	

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EMS Number: Segregation groups Stowage Category	F-A,S-A (SGG10) Liquid halogenated hydrocarbons A
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
Transport/Additional information:	
DOT Quantity limitations	On passenger aircraft/rail: 60 L On cargo aircraft only: 220 L
IMDG Limited quantities (LQ) Excepted quantities (EQ)	5L Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
IATA Remarks:	When sold in quantities of less than or equal to 1 m or 1 g, with an Excepted Quantity Code of E1, E2, E4, or E5, this item meets the De Minim Quantities exemption, per IATA 2.6.10. Therefore packaging does not have to be labeled a Dangerous Goods/Excepted Quantity.
UN "Model Regulation":	UN 1593 DICHLOROMETHANE, 6.1, III

15 Regulatory information

· Safety, health and environmental regulations/legislation specific for the substance or mixture · Sara

Section 355 (extremely hazardous substances):

None of the ingredients is listed.

· Section 313 (Specific toxic chemical listings):

75-09-2 Dichloromethane

TSCA (Toxic Substances Control Act):

This chemical/product is not and cannot be distributed in commerce (as defined in TSCA section 3(5)) or processed (as defined in TSCA section 3(13)) for consumer paint or coating removal.

75-09-2	Dichloromethane	ACTIVE
	, , , , , ,	ACTIVE
112-39-0	Palmitic Acid methyl ester	ACTIVE
112-61-8	Stearic Acid methyl ester	ACTIVE
	,	ACTIVE
	, and the second se	ACTIVE
124-10-7	, ,	ACTIVE
301-00-8	α-Linolenic Acid methyl ester	ACTIVE

· Hazardous Air Pollutants

75-09-2 Dichloromethane

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(Contd. from page 10) · Proposition 65 · Chemicals known to cause cancer: 75-09-2 Dichloromethane · Chemicals known to cause reproductive toxicity for females: None of the ingredients is listed. · Chemicals known to cause reproductive toxicity for males: None of the ingredients is listed. · Chemicals known to cause developmental toxicity: None of the ingredients is listed. Carcinogenic categories EPA (Environmental Protection Agency) 75-09-2 Dichloromethane L · TLV (Threshold Limit Value) 75-09-2 Dichloromethane А3 · NIOSH-Ca (National Institute for Occupational Safety and Health) 75-09-2 Dichloromethane · Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

All chemicals may pose unknown hazards and should be used with caution. This SDS applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this SDS. Cayman Chemical Company assumes no responsibility for incidental or consequential damages, including lost profits, arising from the use of these data. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this SDS is based on technical data judged to be reliable, Cayman Chemical Company assumes no responsibility for the completeness or accuracy of the information contained herein.

- · Department issuing SDS: Environment protection department.
- · Contact: -
- · Date of preparation / last revision 03/14/2023
- · Abbreviations and acronyms:

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

BEI: Biological Exposure Limit

Acute Toxicity - Oral 4: Acute toxicity - Category 4

Skin Irritation 2: Skin corrosion/irritation - Category 2

Eye Irritation 2A: Serious eye damage/eye irritation - Category 2A

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Sensitization - Skin 1: Skin sensitisation – Category 1
Germ Cell Mutagenicity 2: Germ cell mutagenicity – Category 2
Carcinogenicity 2: Carcinogenicity – Category 2
Specific Target Organ Toxicity - Single Exposure 3: Specific target organ toxicity (single exposure) – Category 3
Specific Target Organ Toxicity - Repeated Exposure 1: Specific target organ toxicity (repeated exposure) – Category 1

* Data compared to the previous version altered.