

SAFETY DATA SHEET



In accordance with 453/2010 and 1272/2008

(All references to EU regulations and directives are abbreviated into only the numeric term)

Issued 2015-06-05

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Trade name

Mixture ME 100 (37 components)

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

Identified uses

Laboratory chemicals

Industrial use

1.3. Details of the supplier of the safety data sheet

Company

Larodan AB

Karolinska Institutet Science Park

Retzius väg 8

SE-171 65 SOLNA

Sweden

+46 20 15 22 00

Telephone

E-mail

info@larodan.com

Website

www.larodan.com

1.4. Emergency telephone number

In case of emergency contact toxicological information, emergency tel 112 (within Europe) or 1-800-222-1222 (for USA). For other countries, use the built-in emergency number in your cell phone

For non-emergency poison information, see http://www.who.int/gho/phe/chemical_safety/poisons_centres/en/

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Classification in accordance with 1272/2008

Suspected of causing cancer (Category 2)

2.2. Label elements

Label information in accordance with 1272/2008

Hazard pictograms



Signal words:

Warning!

Hazard statements:

H351

Suspected of causing cancer

Precautionary statements:

P260

Do not breathe mist/vapours/spray.

P262

Do not get in eyes, on skin, or on clothing.

P271

Use only outdoors or in a well-ventilated area.

P280

Wear protective gloves/protective clothing/eye protection/face protection.

P304 + P340

IF INHALED: Remove victim to fresh air and keep at rest in a position 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.

2.3. Other hazards

Not relevant.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

This product consists of a homogeneous liquid mixture.

3.2. Mixtures

Note that the table shows known hazards of the ingredients in a pure form. These hazards are reduced or eliminated when mixed or diluted, see Section 16d.

Constituent	Classification	Concentration
DICHLOROMETHANE		
CAS No 75-09-2 EC No 200-838-9 Index No 602-004-00-3	Carc 2, H351.	90 - 95%
MIX ME 100 (This mixture contains composition of 37 fatty acid methyl esters)		
-	Not considered to be harmful to health.	5 - 10%

Explanations to the classification and labelling of the ingredients are given in Section 16e. Official abbreviations are printed in normal font. Text in italics are specifications and/or complement used in the calculation of the hazards of this mixture, see Section 16b.

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

Generally

Immediately call a POISON CENTER or doctor/physician.

Never leave a injured person alone. Their condition may rapidly worsen, sometimes several hours after the poisoning. For those providing assistance to an injured person should avoid exposure and if risk of exposure exists, use appropriate respiratory protection.

Upon breathing in

Bring the injured person out into fresh air. Give artificial respiration if breathing has stopped. If breathing is difficult let trained personnel administer oxygen. Let the injured person rest in a warm place with fresh air and seek medical advice immediately.

Upon contact with the eyes

Rinse the eye for several minutes with lukewarm water. Contact a physician.

Upon skin contact

In case of contact, flush skin with plenty of water. Remove contaminated clothing and shoes. Get medical aid if irritation develops and persists. Wash clothing before reuse.

Upon ingestion

If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical aid. Immediately contact a doctor (Emergency phone 112).

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

If the injured person is unconscious or drowsy, place them in the recovery position. Symptomatic and supportive treatment.

When contacting a physician, take this SDS with you.

SECTION 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing media

Recommended extinguishing agents

Use water spray, dry chemical, carbon dioxide, or appropriate foam.

Unsuitable extinguishing agents

Among common extinguishing agents there are none that are overtly unsuitable.

5.2. Special hazards arising from the substance or mixture

Produces fumes containing harmful gases (carbon monoxide and carbon dioxide) when burning, and, in case of incomplete combustion, aldehydes and other toxic, harmful, irritant or environmentally harmful substances.

Toxic substances can be spread in case of fire.

Note that the extinguishing water may contain toxic substances or other hazardous substances.

Inflammable.

5.3. Advice for fire-fighters

In case of fire use a respirator mask.

When extinguishing a fire, use over-all coverage clothing which protects against toxic substances.

Protective measures should be taken regarding other material at the site of the fire.

Evacuate all not-authorized personnel.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Use proper personal protective equipment as indicated in Section 8.

6.2. Methods and material for containment and cleaning up

Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Avoid runoff into storm sewers and ditches which lead to waterways. Clean up spills immediately, observing precautions in the Protective Equipment section. Remove all sources of ignition. Provide ventilation.

6.3. Reference to other sections

See section 8 and 13 for personal protection equipment and disposal considerations

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Avoid contact with eyes, skin, and clothing. Keep container tightly closed. Keep away from heat, sparks and flame. Use only with adequate ventilation.

Avoid breathing vapor or mist.

7.2. Conditions for safe storage, including any incompatibilities

Store in dry and cool area below 40 °C. Store in a tightly closed container.

Handle in a fume cupboard or in a space which is equally safe.

Handle in premises which have modern ventilation standards.

Store away from incompatible substances. Keep away from active metals.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

8.1.1. National limit values, United Kingdom

DICHLOROMETHANE

LTTEL 8 hr TWA: 100 ppm /350 mg/m³, STEL: 300 ppm /1060 mg/m³ Other ingredients (cf. Section 3) have no occupational exposure limit values.

8.2. Exposure controls

For the safety and health protection of workers according to EU directives 89/391 , 98/24 and 98/24 and national occupational legislation, measures due to both the physical and general health hazards of this product and the carcinogenic and/or mutagenic properties of any of the ingredients (see Sections 2, 3, 10 and 11) must be considered.

Use protective glasses, safety goggles, or a visor.

Use protective gloves of butyl rubber, Viton or fluorine rubber, or get advice from an occupational medical expert about alternative materials. Show this safety data sheet.

Only under exceptional circumstance shall protective gloves be worn for longer time than one hour. For service work or work lasting more than 30 minutes, choose gloves of high quality (Class 4-6). For work up to 30 minutes use gloves of Class 2. Class 1 gloves are sufficient for up to 10 minutes. The gloves shall cover as much of the forearms as needed for the work.



Choose a mechanical wear strength in line with the nature of the work in accordance to this pictogram with four digits that indicate resistance against abrasion, cutting effects, tear and puncture, where 1 is the lowest and 4 or 5 is the best.

Protect all exposed skin from coming into contact with the product.

Use proper protective breathing protection.

A breathing mask of the A filter (brown) type, may be required.

For limitation of environmental exposure, see Section 12.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

a) Appearance	Form: liquid Colour: Not indicated
b) Odour	Not applicable
c) Odour threshold	Not applicable
d) pH	Not applicable
e) Melting point/freezing point	Not applicable
f) Initial boiling point and boiling range	Not applicable
g) Flash point	Not applicable
h) Evaporation rate	Not applicable
i) Flammability (solid, gas)	Not applicable
j) Upper/lower flammability or explosive limits	Not applicable
k) Vapour pressure	Not applicable
l) Vapour density	Not applicable
m) Relative density	Not applicable
n) Solubility	Not applicable
o) Partition coefficient: n-octanol/water	Not applicable
p) Auto-ignition temperature	Not applicable
q) Decomposition temperature	Not applicable
r) Viscosity	Not applicable
s) Explosive properties	Not applicable
t) Oxidising properties	Not applicable

9.2. Other information

No data available

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

Not indicated

10.2. Chemical stability

Stable at room temperature in closed containers under normal storage and handling conditions.
May form explosive mixtures in atmospheres having high oxygen content.

10.3. Possibility of hazardous reactions

No hazardous reactions known during normal use.

10.4. Conditions to avoid

Excess heat, attacks some plastics, rubber, and coatings, confined spaces, When no water is present, dichloromethane is not corrosive to metals. At high temperatures and in the presence of water (causing slow decomposition forming HCl), corrosion of iron, some stainless steels, copper and aluminum can occur.

10.5. Incompatible materials

Avoid contact with strong oxidizing agents, strong bases, chemically active metals.

10.6. Hazardous decomposition products

Hydrogen chloride, phosgene, carbon monoxide (CO), carbon dioxide (CO₂).

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

General or unspecific toxicity

Note that the product is carcinogenic, or contains carcinogenic substance(s).

Acute effects

The swallowing of small splashes is unlikely to cause any adverse effects. Large amounts may produce internal irritation, nausea, vomiting and diarrhoea and can lead to drowsiness and unconsciousness.

LD₅₀ (rat, oral) >2000 mg/kg

Exposure to high atmospheric concentrations (>1000 ppm) methylene chloride may cause lightheadedness. Exposure to very high concentrations may result in loss of consciousness and may cause an abnormal heart rhythm and prove suddenly fatal. Methylene chloride is converted to carbon monoxide in the body, which reduces the oxygen carrying capacity of the blood. This is reflected by a raised Carboxyhaemoglobin concentration in the blood.

Value used for Chemical Safety Assessment LC₅₀ (8 hr mouse) 56230 mg/m³.

Repeated dose toxicity

May cause an increase in carboxyhemoglobin levels.

Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis.

Carcinogenicity

Is suspected to be carcinogenic. Confirmed animal carcinogen with unknown relevance to humans

Sensibilisation

The criteria for classification cannot be considered fulfilled based on available data.

Corrosive and irritating effects

Irritating to eyes and skin.

Synergism and antagonism

No information is available.

Effect on judgement and other psychological effects

No information is available.

Relevant toxicological properties

DICHLOROMETHANE

LD₅₀ rat (Orally) 24h = 1,25 g/kg

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

DICHLOROMETHANE

Acute aquatic toxicity:

LC50 (96 hour) (Fish) Fresh water 193 mg/L

LC50 (96 hour) (Fish) Marine water 97 mg/L

LC50 (48 hour) Aquatic invertebrates: Fresh water 27 mg/L

LC50 (48 hour) Aquatic invertebrates: Marine water 109 mg/L

NOEC Fresh water Algae 550 mg/L

The product is not to be labelled as an environmental hazard. However, it is not inconceivable that large emissions, or repeated small emissions, can have a harmful effect on the environment.

Prevent release on land, in water and drains.

12.2. Persistence and degradability

Methylene chloride is not hydrolysed under normal environmental conditions. The product is slowly biodegradable in water. Methylene chloride is photochemically oxidised in the troposphere (half life, DT50 is calculated at 79.3 days). Biodegradability : half-life (bacteria) approximately 18 months. Biodegradability : pseudomonas strain - 0.8g/l/hr.

The product is slowly biodegradable in soil. (TD50 = 14.2 d) The product is substantially removed in biological treatment processes.

There is no evidence of inhibition to the aerobic treatment process at a concentration (mg/l) of 200.

12.3. Bioaccumulative potential

The product has low potential for bioaccumulation. Bioconcentration factor (BCF) : 0.91 to 40 l/kg

12.4. Mobility in soil

The product is predicted to have high mobility in soil.

12.5. Results of PBT and vPvB assessment

No chemical safety report has been executed.

12.6. Other adverse effects

Data lacking

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste handling for the product

Product as well as packaging must be disposed as hazardous waste.

Not completely empty packaging can contain remnants of dangerous substances and should therefore be handled as hazardous waste according to the above. Completely empty packaging can be recycled.

Avoid discharge into sewers. Observe local regulations.

Recycling of the product

Empty, rinsed packaging is sent for recycling where practicable.

Residual, old or contaminated product should be disposed of at a waste management facility.

Transportation of waste

Waste number: U080

SECTION 14: TRANSPORT INFORMATION

This product is only supposed to be transported by road or railway and just the transport regulations ADR/RID thus apply. If other means of transport are to be used, contact the publisher of this safety data sheet.

14.1. UN number

1593

14.2. UN proper shipping name

BRANDFARLIG VÄTSKA, GIFTIG, N.O.S. (DICHLOROMETHANE)

14.3. Transport hazard class(es)

Class

6.1: Toxic liquid

Classification code (ADR/RID)

T1: Toxic liquid

Subsidiary risk (IMDG) Labels



14.4. Packing group

Packing group: III

14.5. Environmental hazards

Not applicable

14.6. Special precautions for user

Tunnel restrictions

Tunnel category: E.

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not applicable

14.8 Other transport information

Transport category: 3; Maximum total quantity per transport unit: 1000 kgs or litres

Limited quantity: 5l per inner packaging, 30 kg gross per packaging unit.

SECTION 15: REGULATORY INFORMATION

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

Not applicable.

15.2. Chemical safety assessment

Assessment and chemical safety report in accordance with 1907/2006 Annex I has not yet been performed.

SECTION 16: OTHER INFORMATION

16a. Indication of where changes have been made to the previous version of the safety data sheet

Revisions of this document

This is the first version.

16b. Legend to abbreviations and acronyms used in the safety data sheet

Full texts for Hazard Class and Category Code mentioned in section 3

No phys haz

Non-assigned physical hazard

Carc 2

Suspected of causing cancer (Category 2)

Comprehensive definition of the hazards mentioned in Section 2

Canc 2

This substance is possibly carcinogenic to humans. Chronic inhalation studies in mice have shown increases in lung and liver tumours, when exposed to concentrations of methylene chloride well in excess of the occupational exposure limit. Extensive mechanistic research has shown that these carcinogenic effects are specific to the mouse and are not relevant to human health. This is due to well established differences in metabolic pathways between rodents and man. Several major studies on humans occupationally exposed to methylene chloride have shown no demonstrable link with cancer.

Explanations of the abbreviations in Section 14

ADR European Agreement concerning the International Transport of Dangerous Goods by Road

RID Regulations concerning the International Transport of Dangerous Goods by Rail

Tunnel restriction code: E; Transport by bulk or via tank: Passage forbidden through tunnels of category D and E, Other transportation means: Passage forbidden through tunnels of category E.

Transport category: 3; Maximum total quantity per transport unit: 1000 kgs or litres.

16c. Key literature references and sources for data

Sources for data

Primary data for the calculation of the hazards has preferentially been taken from the official European classification list, 1272/2008 Annex I, as updated to 2015-06-09.

Where such data was lacking, on the second hand the documentation on which this official classification is based was used, e.g. IUCLID (International Uniform Chemical Information Database). On the third hand, information was used from reputable international chemical suppliers, and on the fourth hand from other available information, e.g. safety data sheets from other suppliers or information from non-profit associations, whereby the reliability of the source was judged by an expert. If, in spite of this, reliable information was not found, the hazards were judged by expert opinions based on the known properties of similar substances, and according to the principles in 1907/2006 and 1272/2008.

Full texts for Regulations mentioned in this Safety Data Sheet

- 453/2010 COMMISSION REGULATION (EU) No 453/2010 of 20 May 2010 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)
- 1272/2008 REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006
- 89/391 COUNCIL DIRECTIVE (89/391/EEC of 12 June 1989 on the introduction of measures to encourage improvements in the safety and health of workers at work
- 98/24 COUNCIL DIRECTIVE 98/24/EC of 7 April 1998 on the protection of the health and safety of workers from the risks related to chemical agents at work (fourteenth individual Directive within the meaning of Article 16(1) of Directive 89/391/EEC)
- 1907/2006 REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC Annex I

16d. Methods of evaluating information referred to in 1272/2008 Article 9 which was used for the purpose of classification

The calculation of the hazards of this mixture has been performed as an evaluation by applying a weight of evidence determination using expert judgement in accordance with 1272/2008 Annex I, weighing all available information having a bearing on the determination of the hazards of the mixture, and in accordance with 1907/2006 Annex XI.

16e. List of relevant hazard statements and/or precautionary statements

Full texts for hazard statements mentioned in section 3

H351	Suspected of causing cancer
P260	Do not breathe mist/vapours/spray.
P262	Do not get in eyes, on skin, or on clothing.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P304 + P340	IF INHALED: Remove victim to fresh air and keep at rest in a position 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.

16f. Advice on any training appropriate for workers to ensure protection of human health and the environment

Warning for misuse

This product can cause severe injuries if used improperly. Read and follow carefully the instructions in this safety sheet and other appropriate risk information. At professional use the employer is responsible for the staff being well aware of the risks.

Other relevant information

Editorial information

This safety data sheet has been generated by the program KemRisk®, KemRisk Sweden AB, Teknikringen 10, SE-583 30 Linköping, Sweden.