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 **Methyl Propionate**

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

Telephone +46 20 15 22 00

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

Flammable Liquid (Category 2)
Acute Toxicity (Category 4 *vapour*)

2.2. Label elements

Label information in accordance with 1272/2008

Hazard pictograms

Signal words Danger

Hazard statements

H225 Highly flammable liquid and vapour

H332 Harmful if inhaled

Precautionary statements

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

2.3. Other hazards

Not relevant.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

This product is composed of a pure or almost pure substance.

3.1. Substances

Synonyms Methyl propylate

Chemical formula $C_4H_8O_2$

Molecular weight 88.11

Constituent	Classification	Concentration
METHYL PROPIONATE		
CAS No 554-12-1 EC No 209-060-4 Index No 607-027-00-2	Flam. Liquid 2, Acute Tox. 4. Hazard Statement Code(s): H225, H332.	>99%

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

Generally

IF SWALLOWED: Immediately call a POISON CENTER/doctor. 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

Remove contaminated clothes. Clean with soap and abundant water. Please contact a doctor.

Upon ingestion

Immediately contact a doctor (Emergency phone 112).Do not induce vomiting. Flush nose, mouth and throat with water.

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

Effects of Short-term Exposure: The substance is irritating to the respiratory tract, the skin and the eyes.

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

Symptomatic treatment.

When contacting a physician, take this SDS with you.

SECTION 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing media

Recommended extinguishing agents

All normal extinguishing agents may be used.

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 recommended safety equipment, see section 8.

Do not inhale vapours and avoid contact with skin, eyes and clothes when cleaning up spill.

Ensure good ventilation.

After splashing immediately follow the instructions in section 4.

Switch off equipment which has an exposed flame, glows, or has a heat source of some other kind.

Keep unauthorized and unprotected people at a safe distance.

6.2. Environmental precautions

Avoid discharge into soil, water or sewers.

6.3. Methods and material for containment and cleaning up

Small spills can be wiped up with a cloth or similar. Then flush the spill site with water. Larger spills should first be covered with sand or earth and then be collected. Collected material should be disposed according to Section 13.

After thoroughly removing the spill, clean contaminated surfaces with water.

Do not try to clean up yourself, unless you are properly trained for decontaminating this product.

Residues left behind after cleaning shall be treated as hazardous waste. For further information, contact the local authority sanitisation works. Present this safety data sheet.

6.4. 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

Do not inhale the fumes and avoid exposure to skin, eyes and clothing.

Take off work clothes and protective gear before meals.

Do not mix with other products. Read and follow the manufacturer's instructions.

The product should be stored in a manner which prevents hazards to health and the environment. Avoid exposure to humans and animals and do not discharge the product in a sensitive environment.

Store this product separately from food items and keep it out of the reach of children and pets.

Do not eat, drink or smoke in premises where this product is stored.

Work in order to avoid spillage. If spillage does occur, address it immediately in accordance with the directions specified in Section 6 of this safety data sheet.

Avoid open fire, hot items, sparks or other ignition sources. The product must not be left without supervision during handling.

Wash your hands after using the product. Remove clothes which have been splattered. Wash contaminated clothing before reuse.

Handle and open container with care. Take precautionary measures against static discharge.

7.2. Conditions for safe storage, including any incompatibilities

Store in dry and cool area.

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

Handle in premises which have modern ventilation standards.

Store in a location suited for toxic substances, preferably locked.

An evacuation plan should be available and evacuation routes must not be blocked.

Emergency showers and eye-rinsing facilities must be available at the workplace.

Store only in the original package.

7.3. Specific end uses

See identified uses in Section 1.2.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

8.1.1. National limit values, United Kingdom

All ingredients (cf. Section 3) lack occupational exposure limit values.

8.2. Exposure controls

In terms of minimizing risks, no special attention is needed for this product besides the general obligations that follow EU directive 89/391 and national occupational legislation.

Eye protection is not necessary during normal use.

Protective gloves are normally not needed due to the properties of this product, but may be necessary for other reasons, e.g. mechanical risks, temperature conditions or microbiological risks.

Special measures for protection of the skin are necessary only in rare working situations. In case of doubt, consult occupational expertise. Show this safety data sheet.

Protective breathing equipment should only be required in extreme work-situations. Consult the manufacturer if this is the case.

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: clear colorless
b)	Odour	sweet, fruity, rum-like
c)	Odour threshold	Not applicable
d)	pH	Not applicable
e)	Melting point/freezing point	-87.5 °C
f)	Initial boiling point and boiling range	79.8 °C
g)	Flash point	-2°C
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	0.915 g/cm3 | Condition: Temp: 20 °C
n)	Solubility	In water: 62,37 mg/l (25°C)
o)	Partition coefficient: n-octanol/water	log Pow: 0.82
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

The product is stable at normal storage and handling conditions.

10.3. Possibility of hazardous reactions

No hazardous reactions known during normal use.

10.4. Conditions to avoid

Avoid heat, sparks and open flames.

10.5. Incompatible materials

Reactive with oxidizing agents. Avoid contact with acids, bases, transition metals (and salts of transition metals), reducing agents, organic materials and other contaminants.

10.6. Hazardous decomposition products

Carbon monoxide (CO), carbon dioxide (CO_2) and harmful and irritating substances.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

General or unspecific toxicity

Slightly hazardous in case of skin contact (irritant, permeator), of ingestion, of inhalation.

Acute effects

No information is available.

Repeated dose toxicity

No information is available.

Corrosive and irritating effects

A skin irritant.

Synergism and antagonism

No information is available.

Effect on judgement and other psychological effects

No information is available.

Effect on human microflora

No information is available.

Relevant toxicological properties

METHYL PROPIONATE

LC50 mouse (Oral) = 3460 mg/kg

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

METHYL PROPIONATE

LC50 Golden orfe fish = 175-193 mg/l

LC50 Daphnia (Water flea) 24 h = 516 mg/l

12.2. Persistence and degradability

Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.The products of degradation are more toxic.

12.3. Bioaccumulative potential

There is no information regarding bioaccumulation.

12.4. Mobility in soil

Information about mobility in nature is not available.

12.5. Results of PBT and vPvB assessment

No chemical safety report has been executed.

12.6. Other adverse effects

This substance may be hazardous to the environment; special attention should be given to aquatic organisms.

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.

Spillage disposal: Remove all ignition sources. Ventilation. Collect leaking and spilled liquid in sealable containers as far as possible. Absorb remaining liquid in sand or inert absorbent and remove to safe place. Do NOT wash away into sewer. Do NOT let this chemical enter the environment.

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.

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

1248

14.2. UN proper shipping name

METHYL PROPIONATE

14.3. Transport hazard class(es)

Class 3: Flammable liquids

Classification code (ADR/RID)

F1 : Flammable liquid

Subsidiary risk (IMDG) Labels

14.4. Packing group

Packing group: II

14.5. Environmental hazards

Not applicable

14.6. Special precautions for user

Tunnel restrictions

Tunnel category: (D/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: 2

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

Flam. Liquid 2	Flammable Liquid (Category 2)
Acute Tox. 4	Acute Toxicity (Category 4 *inhalation*)

Comprehensive definition of the hazards mentioned in Section 2

Flam. Liquid 2

Flammable liquids (2) have a flash point below 23 °C and a boiling point above 35 °C.

The vapor is heavier than air and may travel along the ground; distant ignition possible. As a result of flow, agitation etc., electrostatic charges can be generated. Reacts with strong oxidants causing fire and explosion hazard.

Acute Tox. 4 *vapour*

ATE (acute toxicity estimate) 10-20 mg/l

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: D/E; Transport by bulk or via tank: Passage forbidden through tunnels of category D or E

Transport category: 2.

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

H225	Highly flammable liquid and vapour
H332	Harmful if inhaled

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.