

Chemical Safety Data Sheet MSDS / SDS

(-)-LEUKOTRIENE A4 METHYL ESTER

Revision Date:2026-05-31 Revision Number:1

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

Product name : (-)-LEUKOTRIENE A4 METHYL ESTER
CBnumber : CB5184743
CAS : 73466-12-3
Synonyms : LTA4 (Leukotriene A4 methyl ester)

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

Relevant identified uses : For R&D use only. Not for medicinal, household or other use.
Uses advised against : none

Company Identification

Company : Chemicalbook
Address : Building 1, Huihuang International, Shangdi 10th Street, Haidian District, Beijing
Telephone : 010-86108875

SECTION 2: Hazards identification**GHS Label elements, including precautionary statements**

Symbol(GHS)



Signal word

Danger

Precautionary statements

P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P210 Keep away from heat/sparks/open flames/hot surfaces. — No smoking.
P240 Ground/bond container and receiving equipment.
P241 Use explosion-proof electrical/ventilating/lighting/.../equipment.
P242 Use only non-sparking tools.
P243 Take precautionary measures against static discharge.
P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P264 Wash skin thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P273 Avoid release to the environment.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

P321 Specific treatment (see ... on this label).

P331 Do NOT induce vomiting.

P303+P361+P353 IF ON SKIN (or hair): Remove/Take off Immediately all contaminated clothing. Rinse SKIN with water/shower.

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.

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

P312 Call a POISON CENTER or doctor/physician if you feel unwell.

P314 Get medical advice/attention if you feel unwell.

P332+P313 IF SKIN irritation occurs: Get medical advice/attention.

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

P370+P378 In case of fire: Use ... for extinction.

P391 Collect spillage. Hazardous to the aquatic environment

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

P403+P235 Store in a well-ventilated place. Keep cool.

P405 Store locked up.

P501 Dispose of contents/container to.....

Hazard statements

H225 Highly Flammable liquid and vapour

H315 Causes skin irritation

H319 Causes serious eye irritation

H361 Suspected of damaging fertility or the unborn child

H336 May cause drowsiness or dizziness

H373 May cause damage to organs through prolonged or repeated exposure

H304 May be fatal if swallowed and enters airways

H411 Toxic to aquatic life with long lasting effects

SECTION 3: Composition/information on ingredients

Substance

Product name	: (-)-LEUKOTRIENE A4 METHYL ESTER
Synonyms	: LTA4 (Leukotriene A4 methyl ester)
CAS	: 73466-12-3
MF	: C ₂₁ H ₃₂ O ₃
MW	: 332.48

SECTION 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

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 eye contact

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

After swallowing

If symptoms persist consult 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.

SECTION 5: Firefighting measures

Extinguishing media

Suitable extinguishing agents

CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

For safety reasons unsuitable extinguishing agents

Water with full jet

Special hazards arising from the substance or mixture

Can release vapors that form explosive mixtures at temperatures at or above the flashpoint.

Container explosion may occur under fire conditions.

Emits toxic fumes under fire conditions.

Sensitive to static discharge.

Vapors can travel to a source of ignition and flash back.

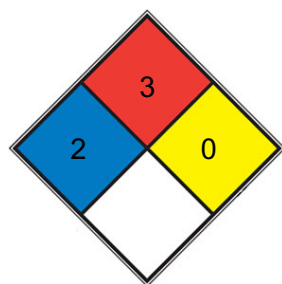
67-56-1 During heating or in case of fire poisonous gases are produced.

Advice for firefighters

Protective equipment

Mouth respiratory protective device.

NFPA 704



HEALTH 2 Intense or continued but not chronic exposure could cause temporary incapacitation or possible residual injury (e.g. [diethyl ether](#), ammonium phosphate, iodine)

FIRE 3 Liquids and solids (including finely divided suspended solids) that can be ignited under almost all ambient temperature conditions. Liquids having a flash point below 22.8 °C (73 °F) and having a boiling point at or above 37.8 °C (100 °F) or having a flash point between 22.8 and 37.8 °C (73 and 100 °F). (e.g. gasoline, [acetone](#))

REACT 0 Normally stable, even under fire exposure conditions, and is not reactive with water (e.g. helium, [N₂](#))

SPEC.

HAZ.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Mount respiratory protective device.

Wear protective equipment. Keep unprotected persons away.

Environmental precautions

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

Inform respective authorities in case of seepage into water course or sewage system.

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 section 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

110-54-3 Hexane 260 ppm 121-44-8 Triethylamine 1 ppm 110-54-3 Hexane 260 ppm 121-44-8 Triethylamine 1 ppm

PAC-2

110-54-3 Hexane 2900* ppm 121-44-8 Triethylamine 170 ppm 110-54-3 Hexane 2900* ppm 121-44-8 Triethylamine 170 ppm

PAC-3

110-54-3 Hexane 8 600** ppm 110-54-3 Hexane 8600** ppm 121-44-8 Triethylamine 1,000 ppm

121-44-8 Triethylamine

1,000 ppm

SECTION 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 ignition sources away - Do not smoke.

Protect against electrostatic charges.

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

Store in a cool location.

Information about storage in one common storage facility

Not required.

Further information about storage conditions

Protect from exposure to the light.

Keep receptacle tightly sealed.

Store in cool, dry conditions in well sealed receptacles.

Specific end use(s)

No further relevant information available.

SECTION 8: Exposure controls/personal protection

Additional information about design of technical systems

No further data; see section 7.

Control parameters

Components with limit values that require monitoring at the workplace:

110-54-3 Hexane	
PEL	Long-term value: 1800 mg/m ³ , 500 ppm
REL	Long-term value: 180 mg/m ³ , 50 ppm
TLV	Long-term value: 50 ppm Skin; BEI
121-44-8 Triethylamine	
PEL	Long-term value: 100 mg/m ³ , 25 ppm
TLV	Short-term value: 1 ppm Long-term value: 0.5 ppm Skin, A4

Ingredients with biological limit values:	
110-54-3 Hexane	
BEI	0.5 mg/L Medium: urine Time: end of shift Parameter: 2.5-Hexanedione without hydrolysis

Additional information

The lists that were valid during the creation were used as basis.

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

Tightly sealed goggles

SECTION 9: Physical and chemical properties

Information on basic physicochemical properties

Appearance

Physical State

Liquid

Color

According to product specification

Odor

Characteristic

Structural Formula

C₂₁H₃₂O₃

Molecular Weight

332.5 g/mol

Odor Threshold

Not determined.

Formulation

A solution in hexane containing 1% triethylamine

pH

Not determined.

Change in condition**Melting point/Melting range**

-95 °C (-139 °F)

Boiling point/Boiling range

69 °C (156.2 °F)

Flash point

-26 °C (-14.8 °F)

Flammability (solid,gas)

Highly flammable.

Auto igniting

240 °C (464 °F)

Decomposition temperature

Not determined.

Ignition temperature

Product is not selfigniting.

Danger of explosion

Product is not explosive. However, formation of explosive air/ vapor mixtures are possible.

Explosion limits

Lower: 1.2 Vol %

Upper: 7.4 Vol %

Vapor Pressure at 20 °C (68 °F)

160 hPa (120 mm Hg)

Vapor Pressure at 50 °C (122 °F)

540 hPa (405 mm Hg)

Density at 20 °C (68 °F)

0.66 g/cm³ (5.5077 lbs/gal)

Relative Density

Not determined.

Vapor Density

Not determined.

Evaporation Rate

Not determined.

Solubility in / Miscibility with

Acetone: >50 mg/ml; DMF: >50 mg/ml; DMSO: >50 mg/ml; Ethanol: >50 mg/ml; PBS pH 7.2: insoluble and unstable.

Water at 20 °C (68 °F)

0.1 g/l

Partition coefficient (n-octanol/water)

Not determined.

Viscosity

Dynamic

Not determined.

Kinematic

Not determined.

SOLUBILITY

Acetone: >50 mg/ml; DMF: >50 mg/ml; DMSO: >50 mg/ml;

Ethanol: >50 mg/ml

Organic solvents

99.0 %

VOC content

99.99 % 999.9 g/l / 8.34 lb/gal

Solids content

0.0 %

Other information

No information available

SECTION 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

No further relevant information available.

Hazardous decomposition products

No dangerous decomposition products known.

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity

LD/LC50 values that are relevant for classification:

Substance / Estimate	Route	Endpoint	Value
ATE (Acute Toxicity Estimate)	Oral	LD50	46,000 mg/kg (rat)
ATE (Acute Toxicity Estimate)	Dermal	LD50	110,000 mg/kg
ATE (Acute Toxicity Estimate)	Inhalative	LC50/4 h	1,100 mg/l
110-54-3 Hexane	Oral	LD50	15,840 mg/kg (rat)
110-54-3 Hexane	Inhalative	LC50/4 h	48,000 mg/m ³ (rat) TCLO 5,400 mg/m ³ /10m (human) Irritation of eyes Irritation 10 mg (rabbit) mild Interperitoneal LDLO 9,100 mg/kg (rat) Data 10 mg (rabbit) mild
121-44-8 Triethylamine	Oral	LD50	460 mg/kg (rat)
121-44-8 Triethylamine	Dermal	LD50	570 mg/kg (rabbit)

Primary irritant effect

on the skin

Irritant to skin and mucous membranes.

on the eye

Irritating effect.

Sensitization

No sensitizing effects known.

Additional toxicological information

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

Irritant

Carcinogenic categories

IARC (International Agency for Research on Cancer)

None of the ingredients is listed.

NTP (National Toxicology Program)

None of the ingredients is listed.

OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

SECTION 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.

Ecotoxicological effects

Remark

Toxic for fish

Additional ecological information

General notes

Water hazard class 3 (Self-assessment) extremely hazardous for water

Do not allow product to reach ground water, water course or sewage system, even in small quantities.

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

Also poisonous for fish and plankton in water bodies.

Toxic for aquatic organisms

Results of PBT and vPvB assessment

PBT

Not applicable.

vPvB

Not applicable.

PBT:

Not applicable.

vPvB:

Not applicable.

Other adverse effects

No further relevant information available.

SECTION 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.

SECTION 14: Transport information

UN-Number

DOT, IMDG, IATA UN1208

UN proper shipping name

DOT, IATA Hexanes

IMDG HEXANES, MARINE POLLUTANT

Transport hazard class(es)**DOT**

Class: 3 Flammable liquids

Label: 3

IMDG

Class: 3 Flammable liquids

Label: 3

IATA

Class: 3 Flammable liquids

Label: 3

Packing group

DOT, IMDG, IATA II

Environmental hazards

Product contains environmentally hazardous

substances

Hexane

Marine pollutant

Symbol (fish and tree)

Special precautions for user

Warning: Flammable liquids

Hazard identification number (Kemler code)

33

EMS Number

F-E,S-D

Stowage Category

E

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: 5 L

On cargo aircraft only: 60 L

IMDG:

Limited quantities (LQ)

1L

Excepted quantities (EQ)

Code: E2

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

IATA:

Remarks

When sold in quantities of less than or equal to 1 mL, or 1 g, with an Excepted Quantity Code of

E1, E2, E4, or E5, this item meets the De Minimis

Quantities exemption, per IATA 2.6.10.

Therefore packaging does not have to be labeled as

Dangerous Goods/Excepted Quantity.

UN "Model Regulation"

UN 1208 HEXANES, 3, II, ENVIRONMENTALLY

HAZARDOUS

SECTION 15: Regulatory information

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

No further relevant information available.

Sara

Section 355 (extremely hazardous substances):	None of the ingredients is listed.
Section 313 (Specific toxic chemical listings):	110-54-3 Hexane
121-44-8 Triethylamine	
TSCA (Toxic Substances Control Act):	110-54-3 Hexane ACTIVE
121-44-8 Triethylamine ACTIVE	
Hazardous Air Pollutants 110-54-3 Hexane	
121-44-8 Triethylamine	

Proposition 65

Chemicals known to cause cancer:	None of the ingredients is listed.
Chemicals known to cause reproductive toxicity for females:	None of the ingredients is listed.
Chemicals known to cause reproductive toxicity for males:	110-54-3 Hexane
Chemicals known to cause developmental toxicity:	None of the ingredients is listed.

Carcinogenic categories

EPA (Environmental Protection Agency):

110-54-3

Hexane II

TLV (Threshold Limit Value)

Triethylamine A4

NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

Chemical safety assessment

A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

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

Flammable Liquids 2: Flammable liquids – Category 2

Skin Irritation 2: Skin corrosion/irritation – Category 2

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

Toxic to Reproduction 2: Reproductive toxicity – Category 2

Specific Target Organ Toxicity - Single Exposure 3: Specific target organ toxicity (single exposure) – Category 3

Specific Target Organ Toxicity - Repeated Exposure 2: Specific target organ toxicity (repeated exposure) – Category 2

Aspiration Hazard 1: Aspiration hazard – Category 1

Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2

Disclaimer:

The information in this MSDS is only applicable to the specified product, unless otherwise specified, it is not applicable to the mixture of this product and other substances. This MSDS only provides information on the safety of the product for those who have received the appropriate professional training for the user of the product. Users of this MSDS must make independent judgments on the applicability of this SDS. The authors of this MSDS will not be held responsible for any harm caused by the use of this MSDS.

