

# MA EPH Aliphatics Mix

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

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

#### 1.1. Product identifier

Product form : Mixture  
Product name : MA EPH Aliphatics Mix  
Product code : AL0-130247  
Product group : Trade product

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

##### 1.2.1. Relevant identified uses

Main use category : Laboratory Use  
Industrial/Professional use spec : Industrial  
For professional use only  
Use of the substance/mixture : Certified reference material for laboratory use only

##### 1.2.2. Uses advised against

No additional information available

#### 1.3. Details of the supplier of the safety data sheet

Phenova  
6390 Joyce Dr. Suite 100  
80403 Golden, CO - United States  
T 1-866-942-2978 - F 1-866-283-0269  
[info@phenova.com](mailto:info@phenova.com) - [www.phenova.com](http://www.phenova.com)

#### 1.4. Emergency telephone number

Emergency number : ChemTel Assistance (US/Canada) 1-800-255-3924  
ChemTel Assistance (International) +1 813-248-0585

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

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

Flam. Liq. 2	H225
Skin Irrit. 2	H315
Repr. 2	H361
STOT SE 3	H336
STOT RE 2	H373
Aquatic Chronic 2	H411

##### Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

Repr.Cat.3; R62  
F; R11  
Xn; R48/20  
Xi; R38  
N; R51/53  
R67

Full text of R-phrases: see section 16

##### Adverse physicochemical, human health and environmental effects

No additional information available

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### 2.2. Label elements

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

Hazard pictograms (CLP) :



Signal word (CLP) :

Danger

Hazard statements (CLP) :

H225 - Highly flammable liquid and vapor  
H315 - Causes skin irritation  
H336 - May cause drowsiness or dizziness  
H361 - Suspected of damaging fertility or the unborn child  
H373 - May cause damage to organs through prolonged or repeated exposure  
H411 - Toxic to aquatic life with long lasting effects

Precautionary statements (CLP) :

P201 - Obtain special instructions before use  
P233 - Keep container tightly closed  
P260 - Do not breathe dust/fume/gas/mist/vapors/spray  
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  
P302+P352 - IF ON SKIN: Wash with plenty of water  
P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water  
P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing  
P308+P313 - IF exposed or concerned: Get medical advice/attention  
P332+P313 - If skin irritation occurs: Get medical advice/attention  
P362+P364 - Take off contaminated clothing and wash it before reuse  
P370+P378 - In case of fire: Use media other than water to extinguish  
P391 - Collect spillage  
P403+P235 - Store in a well-ventilated place. Keep cool  
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation

No labeling applicable

### 2.3. Other hazards

No additional information available

## SECTION 3: Composition/Information on ingredients

### 3.1. Substances

Not applicable

### 3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
hexane (Component)	(CAS No) 110-54-3 (EC-No.) 203-777-6 (EC index no) 601-037-00-0	98.6	Flam. Liq. 2, H225 Skin Irrit. 2, H315 Repr. 2, H361f STOT SE 3, H336 STOT RE 2, H373 Asp. Tox. 1, H304 Aquatic Chronic 2, H411
n-nonane (Component)	(CAS No) 111-84-2 (EC-No.) 203-913-4	0.1	Flam. Liq. 3, H226 Acute Tox. 4 (Inhalation), H332 Asp. Tox. 1, H304 Aquatic Chronic 2, H411
tetradecane (Component)	(CAS No) 629-59-4 (EC-No.) 211-096-0	0.1	Asp. Tox. 1, H304 Aquatic Acute 1, H400
Name	Product identifier	Specific concentration limits	
hexane (Component)	(CAS No) 110-54-3 (EC-No.) 203-777-6 (EC index no) 601-037-00-0	(C >= 5) STOT RE 2, H373	

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures general :

Never give anything by mouth to an unconscious person. IF exposed or concerned: Get medical advice/attention.

First-aid measures after inhalation :

Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

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First-aid measures after skin contact	: Rinse skin with water/shower. Remove/Take off immediately all contaminated clothing. Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation occurs: Get medical advice/attention. Get medical advice/attention.
First-aid measures after eye contact	: Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persists.
First-aid measures after ingestion	: Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

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

Symptoms/effects after inhalation	: May cause drowsiness or dizziness.
Symptoms/effects after skin contact	: Causes skin irritation.

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

No additional information available

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media	: Use extinguishing media appropriate for surrounding fire.
Unsuitable extinguishing media	: Do not use a heavy water stream.

### 5.2. Special hazards arising from the substance or mixture

Fire hazard	: Highly flammable liquid and vapor.
Explosion hazard	: May form flammable/explosive vapor-air mixture.

### 5.3. Advice for firefighters

Firefighting instructions	: Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.
Protection during firefighting	: Do not enter fire area without proper protective equipment, including respiratory protection.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

#### 6.1.1. For non-emergency personnel

Emergency procedures	: Evacuate unnecessary personnel.
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#### 6.1.2. For emergency responders

Protective equipment	: Equip cleanup crew with proper protection. Avoid breathing dust/fume/gas/mist/vapors/spray.
Emergency procedures	: Ventilate area.

### 6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters. Avoid release to the environment.

### 6.3. Methods and material for containment and cleaning up

Methods for cleaning up	: Take up in absorbent material. Collect spillage.
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### 6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Additional hazards when processed	: Handle empty containers with care because residual vapors are flammable.
Precautions for safe handling	: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor. No open flames. No smoking. Use only non-sparking tools. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use only outdoors or in a well-ventilated area.
Hygiene measures	: Gently wash with plenty of soap and water. Remove/Take off immediately all contaminated clothing. Wash contaminated clothing before reuse.

### 7.2. Conditions for safe storage, including any incompatibilities

Technical measures	: Proper grounding procedures to avoid static electricity should be followed. Ground/bond container and receiving equipment.
Storage conditions	: Keep in fireproof place. Keep container tightly closed. Keep container tightly closed and in a well-ventilated place. Keep away from any flames or sparking source.
Incompatible materials	: Direct sunlight. Heat sources.

### 7.3. Specific end use(s)

No additional information available

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

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<b>n-nonane (111-84-2)</b>		
Belgium	Limit value (mg/m <sup>3</sup> )	1065 mg/m <sup>3</sup> (Nonane; Belgium; Time-weighted average exposure limit 8 h)
Belgium	Limit value (ppm)	200 ppm (Nonane; Belgium; Time-weighted average exposure limit 8 h)
France	VME (mg/m <sup>3</sup> )	1050 mg/m <sup>3</sup> (n-Nonane; France; Time-weighted average exposure limit 8 h; VL: Valeur non réglementaire indicative)
France	VME (ppm)	200 ppm (n-Nonane; France; Time-weighted average exposure limit 8 h; VL: Valeur non réglementaire indicative)
Italy - Portugal - USA ACGIH	ACGIH TWA (ppm)	200 ppm (Nonane; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value)
<b>hexane (110-54-3)</b>		
EU	IOELV TWA (mg/m <sup>3</sup> )	72 mg/m <sup>3</sup> (n-Hexane; EU; Time-weighted average exposure limit 8 h; Indicative occupational exposure limit value)
EU	IOELV TWA (ppm)	20 ppm (n-Hexane; EU; Time-weighted average exposure limit 8 h; Indicative occupational exposure limit value)
Belgium	Limit value (mg/m <sup>3</sup> )	72 mg/m <sup>3</sup> (n-Hexane; Belgium; Time-weighted average exposure limit 8 h)
Belgium	Limit value (ppm)	20 ppm (n-Hexane; Belgium; Time-weighted average exposure limit 8 h)
France	VME (mg/m <sup>3</sup> )	72 mg/m <sup>3</sup> (n-Hexane; France; Time-weighted average exposure limit 8 h; VRC: Valeur réglementaire contraignante)
France	VME (ppm)	20 ppm (n-Hexane; France; Time-weighted average exposure limit 8 h; VRC: Valeur réglementaire contraignante)
Italy - Portugal - USA ACGIH	ACGIH TWA (ppm)	50 ppm (n-Hexane; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value)
Netherlands	Grenswaarde TGG 8H (mg/m <sup>3</sup> )	72 mg/m <sup>3</sup> (n-Hexaan; Netherlands; Time-weighted average exposure limit 8 h; Public occupational exposure limit value)
Netherlands	Grenswaarde TGG 8H (ppm)	20 ppm (n-Hexaan; Netherlands; Time-weighted average exposure limit 8 h; Public occupational exposure limit value)
Netherlands	Grenswaarde TGG 15MIN (mg/m <sup>3</sup> )	144 mg/m <sup>3</sup> (n-Hexaan; Netherlands; Short time value; Public occupational exposure limit value)
Netherlands	Grenswaarde TGG 15MIN (ppm)	40 ppm (n-Hexaan; Netherlands; Short time value; Public occupational exposure limit value)
United Kingdom	WEL TWA (mg/m <sup>3</sup> )	72 mg/m <sup>3</sup> n-Hexane; United Kingdom; Time-weighted average exposure limit 8 h; Workplace exposure limit (EH40/2005)
United Kingdom	WEL TWA (ppm)	20 ppm n-Hexane; United Kingdom; Time-weighted average exposure limit 8 h; Workplace exposure limit (EH40/2005)

### 8.2. Exposure controls

Appropriate engineering controls

: Either local exhaust or general room ventilation is usually required.

Personal protective equipment

: Avoid all unnecessary exposure. Gloves. Protective clothing. Protective goggles. Safety glasses.



Hand protection

: Wear chemically resistant protective gloves. Wear suitable gloves resistant to chemical penetration.

Eye protection

: Chemical goggles or safety glasses. Safety glasses.

Skin and body protection

: Wear suitable protective clothing. Wear chemically protective gloves, lab coat or apron to prevent prolonged or repeated skin contact.

Respiratory protection

: Where exposure through inhalation may occur from use, respiratory protection equipment is recommended.

Other information

: Do not eat, drink or smoke during use.

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### SECTION 9: Physical and chemical properties

#### 9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Color	: Colorless.
Odor	: characteristic.
pH	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: Highly flammable liquid and vapor
Relative density	: No data available
Solubility	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available
Explosion limits	: No data available

#### 9.2. Other information

No additional information available

### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

No additional information available

#### 10.2. Chemical stability

Highly flammable liquid and vapor. May form flammable/explosive vapor-air mixture.

#### 10.3. Possibility of hazardous reactions

Not established.

#### 10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures. Open flame.

#### 10.5. Incompatible materials

No additional information available

#### 10.6. Hazardous decomposition products

May release flammable gases.

### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

Acute toxicity : Not classified

<b>n-nonane (111-84-2)</b>	
LD50 oral rat	> 15000 mg/kg (Rat; Literature)
LC50 inhalation rat (mg/l)	17 mg/l/4h (Rat; Literature)
LC50 inhalation rat (ppm)	3200 ppm/4h (Rat; Literature)
ATE CLP (gases)	3200 ppmV/4h
ATE CLP (vapors)	17 mg/l/4h
ATE CLP (dust, mist)	1.5 mg/l/4h

<b>tetradecane (629-59-4)</b>	
LD50 oral rat	> 15000 mg/kg body weight (Rat; Equivalent or similar to OECD 423; Experimental value)
LD50 dermal rabbit	> 5000 (Rabbit; Experimental value; Equivalent or similar to OECD 402)

<b>hexane (110-54-3)</b>	
LD50 oral rat	16000 mg/kg body weight (Rat; Equivalent or similar to OECD 401; Experimental value)
LD50 dermal rabbit	> 3350 mg/kg body weight (Rabbit; Read-across; Equivalent or similar to OECD 402)
ATE CLP (oral)	16000 mg/kg body weight

Skin corrosion/irritation : Causes skin irritation.

Serious eye damage/irritation : Not classified

Based on available data, the classification criteria are not met

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Respiratory or skin sensitization	: Not classified Based on available data, the classification criteria are not met
Germ cell mutagenicity	: Not classified Based on available data, the classification criteria are not met
Carcinogenicity	: Not classified Based on available data, the classification criteria are not met May cause cancer
Reproductive toxicity	: Suspected of damaging fertility or the unborn child.
Specific target organ toxicity – single exposure	: May cause drowsiness or dizziness.
Specific target organ toxicity – repeated exposure	: May cause damage to organs through prolonged or repeated exposure.
Aspiration hazard	: Not classified Based on available data, the classification criteria are not met
Potential Adverse human health effects and symptoms	: Based on available data, the classification criteria are not met.

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - water : Toxic to aquatic life with long lasting effects.

<b>n-nonane (111-84-2)</b>	
LC50 fish 2	1 - 10 mg/l (LC50; 96 h; Pisces)
<b>tetradecane (629-59-4)</b>	
LC50 fish 1	> 1000 mg/l (LC50; OECD 203: Fish, Acute Toxicity Test; 96 h; Oncorhynchus mykiss; Semi-static system; Fresh water; Experimental value)
EC50 Daphnia 1	0.2 mg/l (EC50; Other; 48 h; Daphnia magna; Static system; Fresh water; Experimental value)
<b>hexane (110-54-3)</b>	
LC50 fish 1	2.5 mg/l (LC50; 96 h)
EC50 Daphnia 1	2.1 mg/l (EC50; 48 h)
Threshold limit algae 2	26 mg/l (EbC50; OECD 201: Alga, Growth Inhibition Test; 72 h; Pseudokirchneriella subcapitata; Static system)

### 12.2. Persistence and degradability

<b>MA EPH Aliphatics Mix</b>	
Persistence and degradability	May cause long-term adverse effects in the environment.
<b>n-nonane (111-84-2)</b>	
Persistence and degradability	Forming sediments in water. Biodegradable in the soil. Adsorbs into the soil.
BOD (% of ThOD)	1.1 (1 days)
<b>tetradecane (629-59-4)</b>	
Persistence and degradability	Readily biodegradable in water. Forming sediments in water. Low potential for mobility in soil. Adsorbs into the soil. Photodegradation in the air.
<b>hexane (110-54-3)</b>	
Persistence and degradability	Readily biodegradable in water. Photooxidation in water. easily degradable in the soil.
ThOD	3.52 g O <sub>2</sub> /g substance
BOD (% of ThOD)	0.63 (Literature study)

### 12.3. Bioaccumulative potential

<b>MA EPH Aliphatics Mix</b>	
Bioaccumulative potential	Not established.
<b>n-nonane (111-84-2)</b>	
BCF fish 1	8118 (BCF)
Log Pow	5.65 (Experimental value)
Bioaccumulative potential	Bioaccumable.
<b>tetradecane (629-59-4)</b>	
Log Pow	7.2 (Experimental value; 8.11; Calculated; Other; 25 °C)
Bioaccumulative potential	High potential for bioaccumulation (Log Kow > 5).
<b>hexane (110-54-3)</b>	
BCF fish 1	501.187 (BCF; Other; Pimephales promelas)
Log Pow	3.5 - 3.94 (Calculated)
Bioaccumulative potential	Potential for bioaccumulation (500 ≤ BCF ≤ 5000).

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### 12.4. Mobility in soil

#### tetradecane (629-59-4)

Log Koc : log Koc,Other; 5.88; QSAR

#### hexane (110-54-3)

Surface tension : 0.018 N/m (25 °C; 1 g/l)

Log Koc : Koc,2187.76; QSAR; log Koc; 3.34; QSAR

### 12.5. Results of PBT and vPvB assessment

No additional information available

### 12.6. Other adverse effects

Additional information : Avoid release to the environment

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Product/Packaging disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.

Additional information : Handle empty containers with care because residual vapors are flammable.

Ecology - waste materials : Avoid release to the environment.

## SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

### 14.1. UN number

UN-No. (ADR) : 1993

UN-No. (IATA) : 1993

UN-No. (IMDG) : 1993

UN-No. (ADN) : 1993

### 14.2. UN proper shipping name

Proper Shipping Name (ADR) : FLAMMABLE LIQUID, N.O.S.

Proper Shipping Name (IATA) : Flammable liquid, n.o.s.

Proper Shipping Name (IMDG) : FLAMMABLE LIQUID, N.O.S.

Proper Shipping Name (ADN) : FLAMMABLE LIQUID, N.O.S.

Transport document description (ADR) : UN 1993 FLAMMABLE LIQUID, N.O.S., 3, II, (D/E), ENVIRONMENTALLY HAZARDOUS

### 14.3. Packing group

Class (ADR) : 3

Classification code (ADR) : F1

Class (IATA) : 3

Class (IMDG) : 3

Class (ADN) : 3

Classification code (ADN) : F1

Hazard labels (ADR) : 3



Hazard labels (IATA) : 3



Hazard labels (IMDG) : 3



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Hazard labels (ADN) : 3



### 14.4. Packing group

Packing group (ADR) : II  
Packing group (IATA) : II  
Packing group (IMDG) : II  
Packing group (ADN) : II

### 14.5. Environmental hazards

Dangerous for the environment :



Other information : No supplementary information available.

### 14.6. Special precautions for user

#### 14.6.1. Overland transport

Hazard identification number (Kemler No.) : 33  
Classification code (ADR) : F1  
Orange plates :



Special provision (ADR) : 274, 601, 640D  
Transport category (ADR) : 2  
Tunnel restriction code (ADR) : D/E  
Limited quantities (ADR) : 1I  
Excepted quantities (ADR) : E2

#### 14.6.2. Transport by sea

Special provision (IMDG) : 274  
Limited quantities (IMDG) : 1 L  
Excepted quantities (IMDG) : E2  
Packing instructions (IMDG) : P001  
IBC packing instructions (IMDG) : IBC02  
Tank instructions (IMDG) : T7  
Tank special provisions (IMDG) : TP1, TP8, TP28  
EmS-No. (Fire) : F-E  
EmS-No. (Spillage) : S-E  
Stowage category (IMDG) : B

#### 14.6.3. Air transport

CAO packing instructions (IATA) : 364  
CAO max net quantity (IATA) : 60L  
PCA packing instructions (IATA) : 353  
PCA Limited quantities (IATA) : Y341  
PCA limited quantity max net quantity (IATA) : 1L  
PCA max net quantity (IATA) : 5L  
PCA Excepted quantities (IATA) : E2  
Special provision (IATA) : A3  
ERG code (IATA) : 3H

#### 14.6.4. Inland waterway transport

Special provision (ADN) : 274, 601, 640D  
Limited quantities (ADN) : 1 L  
Excepted quantities (ADN) : E2  
Carriage permitted (ADN) : T



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Equipment required (ADN) : PP, EX, A  
Ventilation (ADN) : VE01  
Number of blue cones/lights (ADN) : 1  
Carriage prohibited (ADN) : No

### 14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

## SECTION 15: Regulatory information

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

#### 15.1.1. EU-Regulations

Contains no REACH substances with Annex XVII restrictions

Contains no REACH candidate substance

Contains no REACH Annex XIV substances.

#### 15.1.2. National regulations

##### Germany

Water hazard class (WGK) : 2 - hazardous to water

### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out

## SECTION 16: Other information

Data sources : REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labeling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

Other information : None.

PHV SDS EU

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