

# n-Pentane/Isopentane Blend

## Safety Data Sheet

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

Date of issue: 28/12/2017

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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 : n-Pentane/Isopentane Blend  
Product code : AL0-130229  
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

##### 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. 1 : H224  
STOT SE 3 : H336  
Aquatic Chronic 2 : H411

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

F+; R12  
N; R51/53  
R66  
R67

Full text of R-phrases: see section 16

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

No additional information available

#### 2.2. Label elements

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

Hazard pictograms (CLP) :



GHS02

GHS07

GHS09

Signal word (CLP) :

Danger

Hazardous ingredients :

n-pentane; isopentane

Hazard statements (CLP) :

H224 - Extremely flammable liquid and vapor  
H336 - May cause drowsiness or dizziness  
H411 - Toxic to aquatic life with long lasting effects

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- Precautionary statements (CLP) : P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking  
P233 - Keep container tightly closed  
P261 - Avoid breathing 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  
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  
P370+P378 - In case of fire: Use media other than water to extinguish  
P391 - Collect spillage  
P403+P233 - Store in a well-ventilated place. Keep container tightly closed  
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation
- EUH phrases : EUH066 - Repeated exposure may cause skin dryness or cracking

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]
n-pentane (Component)	(CAS No) 109-66-0 (EC-No.) 203-692-4 (EC index no) 601-006-00-1	70	Flam. Liq. 2, H225 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Chronic 2, H411
isopentane (Component)	(CAS No) 78-78-4 (EC-No.) 201-142-8 (EC index no) 601-006-00-1	30	Flam. Liq. 1, H224 Asp. Tox. 1, H304 STOT SE 3, H336 Aquatic Chronic 2, H411

## 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.
- First-aid measures after skin contact : Rinse skin with water/shower. Remove/Take off immediately all contaminated clothing. Repeated exposure may cause skin dryness or cracking.
- 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.

### 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 : Extremely 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.

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### 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.

##### 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.

#### 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. Take precautionary measures against static discharge. Use only non-sparking tools. 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 : 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

n-pentane (109-66-0)		
EU	IOELV TWA (mg/m <sup>3</sup> )	3000 mg/m <sup>3</sup> (Pentane; EU; Time-weighted average exposure limit 8 h; Indicative occupational exposure limit value)
EU	IOELV TWA (ppm)	1000 ppm (Pentane; EU; Time-weighted average exposure limit 8 h; Indicative occupational exposure limit value)
Belgium	Limit value (mg/m <sup>3</sup> )	1800 mg/m <sup>3</sup> (Pentane, tous isomères; Belgium; Time-weighted average exposure limit 8 h)
Belgium	Limit value (ppm)	600 ppm (Pentane, tous isomères; Belgium; Time-weighted average exposure limit 8 h)
Belgium	Short time value (mg/m <sup>3</sup> )	2250 mg/m <sup>3</sup> (Pentane, tous isomères; Belgium; Short time value)
Belgium	Short time value (ppm)	750 ppm (Pentane, tous isomères; Belgium; Short time value)
France	VME (mg/m <sup>3</sup> )	3000 mg/m <sup>3</sup> (n-Pentane; France; Time-weighted average exposure limit 8 h; VRC: Valeur réglementaire contraignante)
France	VME (ppm)	1000 ppm (n-Pentane; France; Time-weighted average exposure limit 8 h; VRC: Valeur réglementaire contraignante)
Italy - Portugal - USA ACGIH	ACGIH TWA (ppm)	1000 ppm (Pentane, all isomers; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value)
Netherlands	Grenswaarde TGG 8H (mg/m <sup>3</sup> )	1800 mg/m <sup>3</sup> (n-Pentane; Netherlands; Time-weighted average exposure limit 8 h; Public occupational exposure limit value)
Netherlands	Grenswaarde TGG 8H (ppm)	600 ppm (n-Pentane; Netherlands; Time-weighted average exposure limit 8 h; Public occupational exposure limit value)

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n-pentane (109-66-0)		
United Kingdom	WEL TWA (mg/m <sup>3</sup> )	1800 mg/m <sup>3</sup> Pentane; United Kingdom; Time-weighted average exposure limit 8 h; Workplace exposure limit (EH40/2005)
United Kingdom	WEL TWA (ppm)	600 ppm Pentane; United Kingdom; Time-weighted average exposure limit 8 h; Workplace exposure limit (EH40/2005)
isopentane (78-78-4)		
EU	IOELV TWA (mg/m <sup>3</sup> )	3000 mg/m <sup>3</sup> (Isopentane; EU; Time-weighted average exposure limit 8 h; Indicative occupational exposure limit value)
EU	IOELV TWA (ppm)	1000 ppm (Isopentane; EU; Time-weighted average exposure limit 8 h; Indicative occupational exposure limit value)
Belgium	Limit value (mg/m <sup>3</sup> )	1800 mg/m <sup>3</sup> (Pentane, tous isomères; Belgium; Time-weighted average exposure limit 8 h)
Belgium	Limit value (ppm)	600 ppm (Pentane, tous isomères; Belgium; Time-weighted average exposure limit 8 h)
Belgium	Short time value (mg/m <sup>3</sup> )	2250 mg/m <sup>3</sup> (Pentane, tous isomères; Belgium; Short time value)
Belgium	Short time value (ppm)	750 ppm (Pentane, tous isomères; Belgium; Short time value)
France	VME (mg/m <sup>3</sup> )	3000 mg/m <sup>3</sup> (Isopentane; France; Time-weighted average exposure limit 8 h; VRI: Valeur réglementaire indicative)
France	VME (ppm)	1000 ppm (Isopentane; France; Time-weighted average exposure limit 8 h; VRI: Valeur réglementaire indicative)
Italy - Portugal - USA ACGIH	ACGIH TWA (ppm)	1000 ppm (Pentane, all isomers; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value)
Netherlands	Grenswaarde TGG 8H (mg/m <sup>3</sup> )	1800 mg/m <sup>3</sup> (isopentane; Netherlands; Time-weighted average exposure limit 8 h; Public occupational exposure limit value)
Netherlands	Grenswaarde TGG 8H (ppm)	600 ppm (isopentane; Netherlands; Time-weighted average exposure limit 8 h; Public occupational exposure limit value)
United Kingdom	WEL TWA (mg/m <sup>3</sup> )	1800 mg/m <sup>3</sup> Isopentane; United Kingdom; Time-weighted average exposure limit 8 h; Workplace exposure limit (EH40/2005)
United Kingdom	WEL TWA (ppm)	600 ppm Isopentane; 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 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.

## SECTION 9: Physical and chemical properties

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

Physical state

: Liquid

Color

: Colorless.

Odor

: characteristic.

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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)	: Extremely 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

Extremely 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. Sparks. Heat. Overheating. 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-pentane (109-66-0)</b>	
LD50 oral rat	> 2000 mg/kg (Rat; OECD 401: Acute Oral Toxicity; Experimental value)
<b>isopentane (78-78-4)</b>	
LD50 oral rat	> 5000 mg/kg (Rat; OECD 423: Acute Oral Toxicity – Acute Toxic Class Method; Experimental value)
LD50 dermal rabbit	> 3000 mg/kg (Rabbit)
LC50 inhalation rat (mg/l)	> 25.3 mg/l/4h (Rat; Read-across)

Skin corrosion/irritation	: Not classified Repeated exposure may cause skin dryness or cracking
Serious eye damage/irritation	: Not classified Based on available data, the classification criteria are not met
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	: Not classified Based on available data, the classification criteria are not met
Specific target organ toxicity – single exposure	: May cause drowsiness or dizziness.
Specific target organ toxicity – repeated exposure	: Not classified Based on available data, the classification criteria are not met

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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.

isopentane (78-78-4)	
LC50 fish 1	3.1 mg/l (LC50; 96 h; Salmo gairdneri)
EC50 Daphnia 1	2.3 mg/l (EC50; 48 h)
Threshold limit algae 2	2.62 mg/l (EC50; 72 h; Algae)

#### 12.2. Persistence and degradability

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Persistence and degradability	May cause long-term adverse effects in the environment.

n-pentane (109-66-0)	
Persistence and degradability	Readily biodegradable in water. Low potential for adsorption in soil.

isopentane (78-78-4)	
Persistence and degradability	Not readily biodegradable in water. Forming sediments in water. Adsorbs into the soil. Photodegradation in the air.
ThOD	3.55 g O <sub>2</sub> /g substance

#### 12.3. Bioaccumulative potential

n-Pentane/Isopentane Blend	
Bioaccumulative potential	Not established.

n-pentane (109-66-0)	
BCF fish 1	171 (BCF)
Log Pow	3.45 (Experimental value; 25 °C)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

isopentane (78-78-4)	
BCF fish 1	136 (BCF)
Log Pow	3.4 (Calculated)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

#### 12.4. Mobility in soil

n-pentane (109-66-0)	
Surface tension	0.015 N/m (25 °C; 100 %; 0.013 N/m; 20 °C)
Log Koc	log Koc,2.9; QSAR

isopentane (78-78-4)	
Surface tension	0.01549 N/m (25 °C; 100 vol %)

#### 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

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### 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, I, (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
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Hazard labels (IMDG)	: 3
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Hazard labels (ADN)	: 3
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### 14.4. Packing group

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

### 14.5. Environmental hazards

Dangerous for the environment	:
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Other information	: No supplementary information available.
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### 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
Transport category (ADR)	: 1

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Tunnel restriction code (ADR) : D/E  
Limited quantities (ADR) : 0  
Excepted quantities (ADR) : E3

### 14.6.2. Transport by sea

Special provision (IMDG) : 274  
Limited quantities (IMDG) : 0  
Excepted quantities (IMDG) : E3  
Packing instructions (IMDG) : P001  
Tank instructions (IMDG) : T11  
Tank special provisions (IMDG) : TP1, TP27  
EmS-No. (Fire) : F-E  
EmS-No. (Spillage) : S-E  
Stowage category (IMDG) : E

### 14.6.3. Air transport

CAO packing instructions (IATA) : 361  
CAO max net quantity (IATA) : 30L  
PCA packing instructions (IATA) : 351  
PCA Limited quantities (IATA) : Forbidden  
PCA limited quantity max net quantity (IATA) : Forbidden  
PCA max net quantity (IATA) : 1L  
PCA Excepted quantities (IATA) : E3  
Special provision (IATA) : A3  
ERG code (IATA) : 3H

### 14.6.4. Inland waterway transport

Special provision (ADN) : 274  
Limited quantities (ADN) : 0  
Excepted quantities (ADN) : E3  
Carriage permitted (ADN) : T  
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.



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