



# SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Revision Date 04/11/2014

Version 2.1

## SECTION 1. Identification

### Product identifier

Product number	104367
Product name	n-Hexane for analysis EMSURE® ACS
CAS-No.	110-54-3

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

Identified uses	Reagent for analysis, Chemical production
-----------------	---

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

Company	EMD Millipore Corporation   290 Concord Road, Billerica, MA 01821, United States of America   General Inquiries: +1-978-751-4321   Monday to Friday, 9:00 AM to 4:00 PM Eastern Time (GMT-5)
---------	--

Emergency telephone	800-424-9300 CHEMTREC (USA) +1-703-527-3887 CHEMTREC (International) 24 Hours/day; 7 Days/week
---------------------	--

## SECTION 2. Hazards identification

### GHS Classification

Flammable liquid, Category 2, H225  
Reproductive toxicity, Category 2, H361f  
Specific target organ systemic toxicity - repeated exposure, Category 2, H373  
Aspiration hazard, Category 1, H304  
Skin irritation, Category 2, H315  
Specific target organ systemic toxicity - single exposure, Category 3, H336  
Chronic aquatic toxicity, Category 2, H411  
For the full text of the H-Statements mentioned in this Section, see Section 16.

### GHS-Labeling

*Hazard pictograms*



*Signal Word*  
Danger

# SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number 104367  
Product name n-Hexane for analysis EMSURE® ACS

Version 2.1

## *Hazard Statements*

H225 Highly flammable liquid and vapor.  
H304 May be fatal if swallowed and enters airways.  
H315 Causes skin irritation.  
H336 May cause drowsiness or dizziness.  
H361f Suspected of damaging fertility.  
H373 May cause damage to organs through prolonged or repeated exposure.  
H411 Toxic to aquatic life with long lasting effects.

## *Precautionary Statements*

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.  
P240 Ground/bond container and receiving equipment.  
P273 Avoid release to the environment.  
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.  
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.  
P331 Do NOT induce vomiting.  
P403 + P235 Store in a well-ventilated place. Keep cool.

## **OSHA Hazards**

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200). This information is based on 29 CFR 1910.1200 criteria prior to adoption of the GHS and may deviate from the GHS information.

## **Other hazards**

None known.

---

## **SECTION 3. Composition/information on ingredients**

Formula	$\text{CH}_3(\text{CH}_2)_4\text{CH}_3$	$\text{C}_6\text{H}_{14}$ (Hill)
Molar mass	86.18 g/mol	

## **Hazardous ingredients**

*Chemical Name (Concentration)*

CAS-No.

*n-Hexane (>= 90 % - <= 100 % )*

110-54-3

Exact percentages are being withheld as a trade secret.

---

## **SECTION 4. First aid measures**

### **Description of first-aid measures**

#### *Inhalation*

After inhalation: fresh air. Consult a physician.

#### *Skin contact*

After skin contact: wash off with plenty of water. Remove contaminated clothing. Consult a physician.

#### *Eye contact*

After eye contact: rinse out with plenty of water. Call in ophthalmologist.

## SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number 104367  
Product name n-Hexane for analysis EMSURE® ACS

Version 2. 1

### *Ingestion*

After swallowing: caution if victim vomits. Risk of aspiration! Keep airways free. Pulmonary failure possible after aspiration of vomit. Call a physician immediately.

Never give anything by mouth to an unconscious person.

### **Most important symptoms and effects, both acute and delayed**

irritant effects, Drowsiness, narcosis, Nausea, drowsiness, Tiredness, CNS disorders, paralysis symptoms

Risk of corneal clouding.

It generally applies for aliphatic hydrocarbons with 6 - 18 carbon atoms that they may cause pneumonia, in some cases also pulmonary oedema, upon direct inhalation, i.e. in conditions that can occur only in very special circumstances (nebulizations, spraying, inhalation of aerosols and similar). After absorption of very large quantities: narcosis.

### **Indication of any immediate medical attention and special treatment needed**

No information available.

---

## **SECTION 5. Fire-fighting measures**

### **Extinguishing media**

#### *Suitable extinguishing media*

Carbon dioxide (CO<sub>2</sub>), Foam, Dry powder

#### *Unsuitable extinguishing media*

For this substance/mixture no limitations of extinguishing agents are given.

### **Special hazards arising from the substance or mixture**

Combustible.

Vapors are heavier than air and may spread along floors.

Forms explosive mixtures with air at ambient temperatures.

Pay attention to flashback.

Development of hazardous combustion gases or vapors possible in the event of fire.

### **Advice for firefighters**

#### *Special protective equipment for fire-fighters*

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

#### *Further information*

Prevent fire extinguishing water from contaminating surface water or the ground water system.

Remove container from danger zone and cool with water.

---

## **SECTION 6. Accidental release measures**

### **Personal precautions, protective equipment and emergency procedures**

Advice for non-emergency personnel: Avoid substance contact. Do not breathe vapors, aerosols. Ensure adequate ventilation. Keep away from heat and sources of ignition. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders: Protective equipment see section 8.

### **Environmental precautions**

Do not empty into drains. Risk of explosion.

# SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number 104367  
Product name n-Hexane for analysis EMSURE® ACS

Version 2. 1

## Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills.  
Observe possible material restrictions (see sections 7 and 10).  
Take up with liquid-absorbent material (e.g. Chemisorb®). Dispose of properly. Clean up affected area.

## SECTION 7. Handling and storage

### Precautions for safe handling

Work under hood. Do not inhale substance/mixture. Avoid generation of vapors/aerosols.

Observe label precautions.

### *Advice on protection against fire and explosion*

Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.

### Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition.

Storage temperature: no restrictions.

## SECTION 8. Exposure controls/personal protection

### Exposure limit(s)

#### *Ingredients*

Basis	Value	Threshold limits	Remarks
<i>n-Hexane 110-54-3</i>			
ACGIH	Time Weighted Average (TWA): Skin designation:	50 ppm	Can be absorbed through the skin.
NIOSH/GUIDE	Recommended exposure limit (REL):	50 ppm 180 mg/m <sup>3</sup>	
OSHA_TRANS	PEL:	500 ppm 1,800 mg/m <sup>3</sup>	
Z1A	Time Weighted Average (TWA):	50 ppm 180 mg/m <sup>3</sup>	

### Engineering measures

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

### Individual protection measures

Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled. The chemical resistance of the protective equipment should be inquired at the respective supplier.

### *Hygiene measures*

Immediately change contaminated clothing. Apply skin- protective barrier cream. Wash hands and face after working with substance.

# SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number 104367  
Product name n-Hexane for analysis EMSURE® ACS

Version 2.1

### *Eye/face protection*

Safety glasses

### *Hand protection*

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

### *Other protective equipment:*

Flame retardant antistatic protective clothing

### *Respiratory protection*

required when vapors/aerosols are generated.

Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

---

## SECTION 9. Physical and chemical properties

Physical state	liquid
Color	colorless
Odor	benzine-like
Odor Threshold	No information available.
pH	not applicable
Melting point	-94.3 °C
Boiling point/boiling range	156 °F (69 °C) at 1,013 hPa
Flash point	-8 °F (-22 °C) Method: c.c.
Evaporation rate	No information available.
Flammability (solid, gas)	not applicable
Lower explosion limit	1.0 %(V)
Upper explosion limit	8.1 %(V)
Vapor pressure	160 hPa at 68 °F (20 °C)
Relative vapor density	2.79
Density	0.66 g/cm <sup>3</sup> at 68 °F (20 °C)

# SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number 104367  
Product name n-Hexane for analysis EMSURE® ACS

Version 2. 1

---

Relative density	No information available.
Water solubility	0.0095 g/l at 68 °F (20 °C)
Partition coefficient: n-octanol/water	log Pow: 4.11 (calculated) (Lit.) Potential bioaccumulation
Autoignition temperature	No information available.
Decomposition temperature	Distillable in an undecomposed state at normal pressure.
Viscosity, dynamic	0.326 mPa.s at 68 °F (20 °C)
Explosive properties	Not classified as explosive.
Oxidizing properties	none
Ignition temperature	464 °F (240 °C) Method: DIN 51794
Viscosity, kinematic	0.50 mm <sup>2</sup> /s at 68 °F (20 °C)

---

## SECTION 10. Stability and reactivity

### Reactivity

Vapors may form explosive mixture with air.

### Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

### Possibility of hazardous reactions

Risk of explosion with:  
Strong oxidizing agents

### Conditions to avoid

Warming.

### Incompatible materials

rubber, various plastics

### Hazardous decomposition products

no information available

# SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number 104367  
Product name n-Hexane for analysis EMSURE® ACS

Version 2. 1

---

## SECTION 11. Toxicological information

### Information on toxicological effects

#### *Likely route of exposure*

Inhalation, Eye contact, Skin contact

#### *Target Organs*

Eyes

Skin

Respiratory system

Central nervous system

Peripheral nervous system

#### *Acute oral toxicity*

LD50 rat: 25,000 mg/kg (RTECS)

Symptoms: Nausea

#### *Acute inhalation toxicity*

LC50 rat: 171.6 mg/l; 4 h (RTECS)

Symptoms: drowsiness, Drowsiness, Irritation symptoms in the respiratory tract.

#### *Acute dermal toxicity*

LD50 rabbit: > 2,000 mg/kg

(External MSDS)

absorption

#### *Skin irritation*

Causes skin irritation.

#### *Eye irritation*

Risk of corneal clouding.

#### *Genotoxicity in vivo*

Mutagenicity (mammal cell test): micronucleus.

Result: negative

(National Toxicology Program)

#### *Genotoxicity in vitro*

Ames test

Salmonella typhimurium

Result: negative

(National Toxicology Program)

Mutagenicity (mammal cell test): chromosome aberration.

Result: negative

(National Toxicology Program)

#### *CMR effects*

Reproductive toxicity:

Suspected of damaging fertility.

## SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number 104367  
Product name n-Hexane for analysis EMSURE® ACS

Version 2. 1

### *Specific target organ systemic toxicity - single exposure*

Target Organs: Central nervous system  
May cause drowsiness or dizziness.

### *Specific target organ systemic toxicity - repeated exposure*

Target Organs: Central nervous system  
May cause damage to organs through prolonged or repeated exposure.

### *Aspiration hazard*

Aspiration hazard, Aspiration may cause pulmonary edema and pneumonitis.

## Carcinogenicity

IARC	No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
OSHA	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
NTP	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
ACGIH	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

## Further information

After absorption:

Tiredness, narcosis

After long-term exposure to the chemical:

CNS disorders, paralysis symptoms

It generally applies for aliphatic hydrocarbons with 6 - 18 carbon atoms that they may cause pneumonia, in some cases also pulmonary oedema, upon direct inhalation, i.e. in conditions that can occur only in very special circumstances (nebulizations, spraying, inhalation of aerosols and similar). After absorption of very large quantities: narcosis.

Handle in accordance with good industrial hygiene and safety practice.

---

## SECTION 12. Ecological information

### Ecotoxicity

#### *Toxicity to fish*

LC50 Pimephales promelas (fathead minnow): 2.5 mg/l; 96 h (ECOTOX Database)

#### *Toxicity to daphnia and other aquatic invertebrates*

EC50 Daphnia magna (Water flea): 2.1 mg/l; 48 h (Lit.)

### Persistence and degradability

No information available.

### Bioaccumulative potential



# SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number 104367  
Product name n-Hexane for analysis EMSURE® ACS

Version 2. 1

*Partition coefficient: n-octanol/water*

log Pow: 4.11

(calculated)

(Lit.) Potential bioaccumulation

## Mobility in soil

No information available.

## Other adverse effects

*Henry constant*

183000 Pa\*m<sup>3</sup>/mol

(HSDB) Distribution preferentially in air.

*Additional ecological information*

Discharge into the environment must be avoided.

---

## SECTION 13. Disposal considerations

The information presented only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. Disposal should be in accordance with applicable regional, national and local laws and regulations.

---

## SECTION 14. Transport information

### Land transport (DOT)

UN number	UN 1208
Proper shipping name	HEXANES
Class	3
Packing group	II
Environmentally hazardous	--

### Air transport (IATA)

UN number	UN 1208
Proper shipping name	HEXANES
Class	3
Packing group	II
Environmentally hazardous	--
Special precautions for user	no

### Sea transport (IMDG)

UN number	UN 1208
Proper shipping name	HEXANES
Class	3
Packing group	II
Environmentally hazardous	--
Special precautions for user	yes

SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number

104367

Version 2. 1

Product name

n-Hexane for analysis EMSURE® ACS

EmS

F-E S-D

**SECTION 15. Regulatory information**

**United States of America**

**OSHA Hazards**

- Flammable Liquid
- Skin irritant
- Reproductive hazard
- Target organ effects
- Eye irritant
- Respiratory irritant

This information is based on 29 CFR 1910.1200 criteria prior to adoption of the GHS, and may deviate from the GHS information on the label and in section 2.

**SARA 311/312 Hazards**

- Fire Hazard
- Acute Health Hazard
- Chronic Health Hazard

**SARA 313**

The following components are subject to reporting levels established by SARA Title III, Section 313:

*Ingredients*

n-Hexane	110-54-3	100 %
----------	----------	-------

**SARA 302**

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**Clean Water Act**

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

**DEA List I**

Not listed

**DEA List II**

Not listed

**US State Regulations**

**Massachusetts Right To Know**

*Ingredients*

n-Hexane

**Pennsylvania Right To Know**

*Ingredients*

n-Hexane

**New Jersey Right To Know**

*Ingredients*

# SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number 104367  
Product name n-Hexane for analysis EMSURE® ACS

Version 2. 1

n-Hexane

## California Prop 65 Components

This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

## Notification status

TSCA: All components of the product are listed in the TSCA-inventory.  
DSL: All components of this product are on the Canadian DSL.

## SECTION 16. Other information

### Training advice

Provide adequate information, instruction and training for operators.

### Full text of H-Statements referred to under sections 2 and 3.

H225 Highly flammable liquid and vapor.  
H304 May be fatal if swallowed and enters airways.  
H315 Causes skin irritation.  
H336 May cause drowsiness or dizziness.  
H361f Suspected of damaging fertility.  
H373 May cause damage to organs through prolonged or repeated exposure.  
H411 Toxic to aquatic life with long lasting effects.

### Key or legend to abbreviations and acronyms used in the safety data sheet

Used abbreviations and acronyms can be looked up at [www.wikipedia.org](http://www.wikipedia.org).

Revision Date 04/11/2014

The information contained herein is based on the present state of our knowledge. It characterizes the product with regard to appropriate safety precautions. It does not represent a warranty of any product properties and we assume no liability for any loss or injury which may result from the use of this information. Users should conduct their own investigations to determine the suitability of the information.

*All rights reserved. Millipore and the "M" Mark are registered trademarks of Merck KGaA, Darmstadt, Germany.*