

# SAFETY DATA SHEET

Version 8.8  
Revision Date 19.02.2026  
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## SECTION 1: Identification of the hazardous chemical and of the supplier

### 1.1 Product identifiers

Product name : n-Hexane EMPLURA®

Product Number : 1.04368

Catalogue No. : 104368

Brand : Millipore

CAS-No. : 110-54-3

### 1.2 Other means of identification

No data available

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

Identified uses : Chemical production, Solvent

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

Company : Merck Sdn. Bhd.  
Co. No: 178145  
No. 4, Jalan U1/26, Section U1,  
40150 HICOM GLENMARIE INDUSTRIAL PARK, SHAH ALA  
MALAYSIA

Telephone : +60 (0)3-74943688

Fax : +60 (0)3-74910850

### 1.5 Emergency telephone number

Emergency Phone # : 1-800-815-308 (CHEMTREC) \* +60 3-  
9212 5794 (CHEMTREC Intl.)

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## SECTION 2: Hazards identification

### Classification of the hazardous chemical

Flammable liquids : Category 2

Skin corrosion/irritation : Category 2

Reproductive toxicity : Category 2

Specific target organ tox- : Category 3 (Central nervous system)

icity - single exposure

Specific target organ toxicity - repeated exposure : Category 2

Aspiration hazard : Category 1

Hazardous to the aquatic environment - chronic hazard : Category 2

### Label elements

Hazard pictograms :



Signal word : Danger

Hazard statements : H225 Highly flammable liquid and vapour.  
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 : **Prevention:**  
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.  
P233 Keep container tightly closed.  
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 mist or vapours.  
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/ eye protection/ face protection.  
P281 Use personal protective equipment as required.  
**Response:**  
P301 + P310 IF SWALLOWED: Immediately call a

POISON CENTER or doctor/ physician.  
P303 + P361 + P353 IF ON SKIN (or hair): Remove/  
Take off immediately all contaminated clothing. Rinse  
skin with water/ shower.  
P304 + P340 + P312 IF INHALED: 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.  
P308 + P313 IF exposed or concerned: Get medical  
advice/ attention.  
P331 Do NOT induce vomiting.  
P332 + P313 If skin irritation occurs: Get medical ad-  
vice/ attention.  
P362 Take off contaminated clothing and wash before  
reuse.  
P370 + P378 In case of fire: Use dry sand, dry chemi-  
cal or alcohol-resistant foam for extinction.  
P391 Collect spillage.

**Storage:**

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.

**Disposal:**

P501 Dispose of contents/ container to an approved  
waste disposal plant.

**Other hazards which do not result in classification**

None known.

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**SECTION 3: Composition and information of the ingredients of the hazardous chemical**

Substance / Mixture : Substance  
CAS-No. : 110-54-3

**Components**

| Chemical name | CAS-No.  | Concentration (% w/w) |
|---------------|----------|-----------------------|
| n-Hexane      | 110-54-3 | >= 60 -<= 100         |

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**SECTION 4: First aid measures**

General advice : Show this safety data sheet to the doctor in attend-  
ance.  
If inhaled : After inhalation: fresh air. Call in physician.

|   |  |
|---|--|
| In case of skin contact                                     | : In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Consult a physician.   |
| In case of eye contact                                      | : After eye contact: rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses.   |
| If swallowed  | : After swallowing: caution if victim vomits. Risk of aspiration! Keep airways free. Pulmonary failure possible after aspiration of vomit. Call a physician immediately. |
| Most important symptoms and effects, both acute and delayed | : The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11  |
| Protection of first-aiders                                  | : For personal protection see section 8.   |
| Notes to physician  | : No data available  |

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## SECTION 5: Firefighting measures

### Extinguishing media

|                                       |  |
|---------------------------------------|--|
| Suitable extinguishing media          | : Carbon dioxide (CO2)<br>Foam<br>Dry powder                                   |
| Unsuitable extinguishing media        | : For this substance/mixture no limitations of extinguishing agents are given. |
| Specific hazards during fire fighting | : Combustible.   |

Pay attention to flashback.

Vapours are heavier than air and may spread along floors.

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

Forms explosive mixtures with air at ambient temperatures.

Hazardous combustion products : Carbon oxides

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

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.

Specific extinguishing methods : Remove container from danger zone and cool with water.  
Prevent fire extinguishing water from contaminating surface water or the ground water system.

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## **SECTION 6: Accidental release measures**

Personal precautions, protective equipment and emergency procedures : Advice for non-emergency personnel:  
Do not breathe vapours, aerosols.  
Avoid substance contact.  
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:  
For personal protection see section 8.

Environmental precautions : Do not let product enter drains.  
Risk of explosion.

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 carefully with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected area.

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## **SECTION 7: Handling and storage**

### **Handling**

For precautions see section 2.2.

### **Precautions for safe handling**

Advice on protection against fire and explosion : Keep away from open flames, hot surfaces and sources of ignition.  
Take precautionary measures against static discharge.

Advice on safe handling : Work under hood. Do not inhale substance/mixture.  
Avoid generation of vapours/aerosols.

## Storage

### Conditions for safe storage, including any incompatibilities

Further information on storage conditions : Keep container tightly closed in a dry and well-ventilated place.  
Keep away from heat and sources of ignition.  
Keep locked up or in an area accessible only to qualified or authorised persons.

Storage class : 3, Flammable liquids

Recommended storage temperature : Recommended storage temperature see product label.

Further information on storage stability : Recommended storage temperature see product label.

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## SECTION 8: Exposure controls and personal protection

### Control parameters

| Components | CAS-No.                   | Value type<br>(Form of exposure) | Control parameters / Permissible concentration | Basis  |
|------------|---------------------------|----------------------------------|--|--------|
| n-Hexane   | 110-54-3                  | TWA                              | 50 ppm<br>176 mg/m <sup>3</sup>                | MY PEL |
|            | Further information: Skin |                                  |  |        |
|            |                           | TWA                              | 50 ppm   | ACGIH  |

### Biological occupational exposure limits

| Components | CAS-No.  | Control parameters | Biological specimen | Sampling time | Permissible concentration | Basis        |
|------------|----------|--------------------|---------------------|---------------|---------------------------|--------------|
| n-Hexane   | 110-54-3 | 2,5-Hexanedione    | Urine               | End of shift  | 0.5 mg/l                  | ACGIH<br>BEI |

**Appropriate engineering controls** : No data available

### Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection : Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).  
Safety glasses

- Skin protection : Flame retardant antistatic protective clothing.
- Hand protection
- Material : Nitrile rubber
  - Break through time : 480 min
  - Glove thickness : 0.4 mm
  - Protective index : Full contact
  - Manufacturer : Camatril® (KCL 730 / Aldrich Z677442, Size M)
- 
- Material : Nitrile rubber
  - Break through time : 10 min
  - Glove thickness : 0.11 mm
  - Protective index : Splash contact
  - Manufacturer : KCL 741 Dermatril® L
- Remarks : This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).
- Respiratory protection : required when vapours/aerosols are generated. Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.
- Recommended Filter type: : Filter A (acc. to DIN 3181) for vapours of organic compounds
- The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.
- Hygiene measures : Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

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## SECTION 9: Physical and chemical properties

- Appearance : liquid
- Color : colourless

|   |   |  |
|---|---|--|
| Odor  | : | hydrocarbon-like   |
| Odor Threshold                                      | : | No data available  |
| pH  | : | 7.0  |
| Melting point/ range                                | : | -95.35 °C<br>(1,013 hPa)   |
| Boiling point/boiling range                         | : | 69 °C (1,013 hPa)  |
| Flash point   | : | -22 °C<br>(1,013 hPa)<br>Method: c.c., closed cup  |
| Evaporation rate                                    | : | 15.8   |
| Flammability (solid, gas)                           | : | No data available  |
| Flammability (liquids)                              | : | No data available  |
| Burning rate  | : | No data available  |
| Self-ignition                                       | : | 225 °C<br>1,013 hPa  |
| Upper explosion limit /<br>Upper flammability limit | : | Upper explosion limit<br>8.1 %(V)  |
| Lower explosion limit /<br>Lower flammability limit | : | Lower explosion limit<br>1.0 %(V)  |
| Vapor pressure                                      | : | 175.98 hPa (20.0 °C)   |
| Relative vapour density                             | : | No data available  |
| Relative density                                    | : | No data available  |
| Density   | : | 0.66 g/cm <sup>3</sup> (25 °C)   |
| Solubility(ies)<br>Water solubility                 | : | 0.01 g/l slightly soluble (25 °C)<br>pH: 7   |
| Partition coefficient: n-<br>octanol/water          | : | log Pow: ca. 4 (20 °C)<br><br>Method: (experimental)<br>(Lit.) Potential bioaccumulation |
| Autoignition temperature                            | : | 225 °C (1,013 hPa)   |
| Decomposition tempera-                              | : | No data available  |

ture

|                          |                                |
|--------------------------|--------------------------------|
| Viscosity                |                                |
| Viscosity, dynamic       | : 0.3 mPa.s ( 25 °C)           |
| Viscosity, kinematic     | : No data available            |
| Flow time                | : No data available            |
| Explosive properties     | : Not classified as explosive. |
| Oxidizing properties     | : none                         |
| Molecular weight         | : 86.18 g/mol                  |
| Particle characteristics |                                |
| Particle size            | : No data available            |

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## SECTION 10: Stability and reactivity

|                                    |  |
|------------------------------------|--|
| Reactivity                         | : Vapours may form explosive mixture with air.<br><br>Vapours may form explosive mixture with air.   |
| Chemical stability                 | : The product is chemically stable under standard ambient conditions (room temperature) .<br><br>The product is chemically stable under standard ambient conditions (room temperature) .   |
| Possibility of hazardous reactions | : Risk of explosion with:<br>Violent reactions possible with:<br>Strong oxidizing agents<br>nitrogen oxides<br>halogens<br>rubber<br>various plastics<br>Risk of ignition or formation of inflammable gases or vapours with:<br>Peroxides<br>(sodium salt) |
| Conditions to avoid                | : Warming.<br><br>Warming.   |
| Incompatible materials             | : No data available  |
| Hazardous decomposition products   | : In the event of fire: see section 5  |

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## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

LD50 Oral - Rat - male and female - 16,000 mg/kg  
(OECD Test Guideline 401)

LC50 Inhalation - Rat - 4 h - 172 mg/l - vapour

Remarks: (RTECS)

LD50 Dermal - Rabbit - male - > 2,000 mg/kg  
(OECD Test Guideline 402)

#### Skin corrosion/irritation

Skin - Rabbit

Result: Skin irritation - 24 h  
(OECD Test Guideline 404)

Remarks: (Regulation (EC) No 1272/2008, Annex VI)

#### Serious eye damage/eye irritation

Eyes - Rabbit

Result: No eye irritation - 72 h  
(OECD Test Guideline 405)

#### Respiratory or skin sensitization

Local lymph node assay (LLNA) - Mouse

Result: negative  
(OECD Test Guideline 429)

#### Germ cell mutagenicity

Test Type: Ames test

Test system: Salmonella typhimurium

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 471

Result: negative

Test Type: In vitro mammalian cell gene mutation test

Test system: Mouse lymphoma test

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 476

Result: negative

Test Type: dominant lethal test

Species: Mouse

Application Route: inhalation (vapour)

Method: OECD Test Guideline 478

Result: negative

Test Type: Chromosome aberration test

Species: Rat

Cell type: Bone marrow

Application Route: Gavage

Method: OECD Test Guideline 475

Result: negative

#### Carcinogenicity

No data available

**Reproductive toxicity**

Suspected of damaging fertility.

**Specific target organ toxicity - single exposure**

May cause drowsiness or dizziness. - Central nervous system

Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

**Specific target organ toxicity - repeated exposure**

Inhalation - Causes damage to organs through prolonged or repeated exposure.

- Nervous system

**Aspiration hazard**

Aspiration may cause pulmonary oedema and pneumonitis.

**11.2 Additional Information**

Repeated dose toxicity - Rat - male and female - Oral - 13 Weeks - No observed adverse effect level - 40 mg/kg - Lowest observed adverse effect level - 200 mg/kg

Drowsiness, irritant effects, somnolence

narcosis, Nausea, 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.

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

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**SECTION 12: Ecological information**

**Ecotoxicity**

**Components:**

**n-Hexane:**

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 2.5 mg/l  
Exposure time: 96 h  
Remarks: (ECOTOX Database)

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 2.1 mg/l  
Exposure time: 48 h  
Remarks: (Lit.)

## Persistence and degradability

### Components:

#### **n-Hexane:**

Biodegradability : aerobic  
Inoculum: activated sludge  
Concentration: 100 mg/l  
Result: Readily biodegradable.  
Biodegradation: 98 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301F  
GLP: yes  
Remarks: (in analogy to similar products)

## Bioaccumulative potential

### Components:

#### **n-Hexane:**

Partition coefficient: n- : log Pow: ca. 4 (20 °C)  
octanol/water : Method: (experimental)  
Remarks: (Lit.)  
Potential bioaccumulation

## Mobility in soil

### Components:

#### **n-Hexane:**

Stability in soil : Remarks: No data available

## Other adverse effects

### Components:

#### **n-Hexane:**

Results of PBT and vPvB : Substance does not meet the criteria for PBT or vPvB  
assessment according to Regulation (EC) No 1907/2006, Annex  
XIII.

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## SECTION 13: Disposal information

### **Disposal methods**

Waste from residues : Waste material must be disposed of in accordance  
with the national and local regulations. Leave chemi-  
cals in original containers. No mixing with other  
waste. Handle uncleaned containers like the product  
itself.

According to Quality Environment Regulation (Sched-

uled Waste) 2005, waste need to be sent to designated premise for recycle, treatment or disposal. Please contact Kualiti Alam for waste classification and correct disposal method.

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## SECTION 14: Transport information

### International Regulations

#### IATA-DGR

UN/ID No. : UN 1208  
Proper shipping name : Hexanes  
Class : 3  
Packing group : II  
Labels : Class 3 - Flammable liquids  
Packing instruction (cargo : 364  
aircraft)  
Packing instruction (pas- : 353  
senger aircraft)

#### IMDG-Code

UN number : UN 1208  
Proper shipping name : HEXANES  
  
Class : 3  
Packing group : II  
Labels : 3  
EmS Code : F-E, S-D  
Marine pollutant : yes

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

Not applicable for product as supplied.

#### Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

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## SECTION 15: Regulatory information

### Safety, health, and environmental regulations specific for the hazardous chemical

Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013.

Occupational Safety and Health (Use and Standards of Exposure of Chemicals Hazardous to Health) Regulations 2000.

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## SECTION 16: Other information

Revision Date : 19.02.2026

Millipore- 1.04368

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The life science business of Merck operates as MilliporeSigma in the US and Canada



## Further information

Other information : The information is believed to be correct but is not exhaustive and will be used solely as a guideline, which is based on current knowledge of the chemical substance or mixture and is applicable to appropriate safety precautions for the product. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See [www.sigma-aldrich.com](http://www.sigma-aldrich.com) and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.  
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Date format : dd.mm.yyyy

## Full text of other abbreviations

ACGIH : USA. ACGIH Threshold Limit Values (TLV)  
ACGIH BEI : ACGIH - Biological Exposure Indices (BEI)  
MY PEL : Malaysia. Occupational Safety and Health (Use and Standards of Exposure of Chemicals Hazardous to Health) Regulations 2000.

ACGIH / TWA : 8-hour, time-weighted average  
MY PEL / TWA : Eight-hour time-weighted average airborne concentration

AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); EC<sub>x</sub> - Concentration associated with x% response; EL<sub>x</sub> - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErC<sub>x</sub> - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonised System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC<sub>50</sub> - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organisation; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardisation; KECI - Korea Existing Chemicals Inventory; LC<sub>50</sub> - Lethal Concentration to 50 % of a test population; LD<sub>50</sub> - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MERCOSUR - The Agreement for the Facilitation of the Transport of Dangerous Goods; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC

- No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organisation for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

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