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

### 1.1. Product identifier

n-Hexan 95% HPLC, UV-IR isocractic grade

| | |
|---|---|
| Substance name: | n-hexane |
| REACH Registration Number: | 01-2119480412-44-XXXX |
| CAS No: | 110-54-3 |
| Index No: | 601-037-00-0 |
| EC No: | 203-777-6 |

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

**Use of the substance/mixture**

Reagents and laboratory chemicals
Only for laboratory and analysis purposes.

**Uses advised against**

Do not use for private purposes (household).

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

| | | |
|---|---|---|
| Company name: | AnalytiChem GmbH<br>ACD | |
| Street: | Stempelstraße 6 | |
| Place: | D-47167 Duisburg | |
| Telephone: | 0203/5194-0 | Telefax: 0203/5194-290 |
| E-mail: | info@analytichem.de | |
| Contact person: | Abteilung Produktsicherheit | Telephone: 0203/5194-107/117 |
| E-mail: | produktsicherheit@analytichem.de | |
| Internet: | www.analytichem.de | |
| Responsible Department: | Abteilung Produktsicherheit | |

### 1.4. Emergency telephone number:

For Hazardous Materials [or Dangerous Goods] Incidents Spill, Leak, Fire, Exposure, or Accident Call CHEMTREC Day or Night Within USA and Canada: 1-800-424-9300 Outside USA and Canada: +1 703-741-5970 (collect calls accepted)

**Further Information**

No data available

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

**Regulation (EC) No 1272/2008**

Flam. Liq. 2; H225
Repr. 2; H361f
Skin Irrit. 2; H315
STOT SE 3; H336
STOT RE 2; H373
Asp. Tox. 1; H304
Aquatic Chronic 2; H411

Full text of hazard statements: see SECTION 16.

### 2.2. Label elements

**Regulation (EC) No 1272/2008**

**Signal word:** Danger

**Pictograms:**

**Hazard statements**

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

**Precautionary statements**

| | |
|---|---|
| P210 | Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. |
| P240 | Ground and bond container and receiving equipment. |
| P273 | Avoid release to the environment. |
| P301+P330+P331 | IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. |
| P302+P352 | IF ON SKIN: Wash with plenty of water and soap. |
| P314 | Get medical advice/attention if you feel unwell. |
| P403+P233 | Store in a well-ventilated place. Keep container tightly closed. |

**2.3. Other hazards**

No data available

## SECTION 3: Composition/information on ingredients

**3.1. Substances**

Sum formula: CH3(CH2)4CH3

Molecular weight: 86,18 g/mol

**Relevant ingredients**

| CAS No | Chemical name | | | Quantity |
|---|---|---|---|---|
| | EC No | Index No | REACH No | |
| | Classification (Regulation (EC) No 1272/2008) | | | |
| 110-54-3 | n-hexane | | | 100 % |
| | 203-777-6 | 601-037-00-0 | 01-2119480412-44-XXXX | |
| | Flam. Liq. 2, Repr. 2, Skin Irrit. 2, STOT SE 3, STOT RE 2, Asp. Tox. 1, Aquatic Chronic 2; H225 H361f H315 H336 H373 H304 H411 | | | |

Full text of H and EUH statements: see section 16.

**Specific Conc. Limits, M-factors and ATE**

| CAS No | EC No | Chemical name | Quantity |
|---|---|---|---|
| | Specific Conc. Limits, M-factors and ATE | | |
| 110-54-3 | 203-777-6 | n-hexane | 100 % |
| | inhalation: LC50 = 73860 mg/l (vapours); dermal: LD50 = > 2000 mg/kg STOT RE 2; H373: >= 5 - 100 | | |

**Further Information**

This product does not contain substances of very high concern according to Regulation (EC) No 1907/2006 (REACH), Article 57 above the respective regulatory concentration limit of = 0.1 % (w/w).

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

**General information**

No data available

**After inhalation**

Provide fresh air.
If breathing is irregular or stopped, administer artificial respiration.
Call a physician immediately.

**After contact with skin**

Wash immediately with: Water
Take off immediately all contaminated clothing and wash it before reuse.
Call a physician immediately.

**After contact with eyes**

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist.
Remove contact lenses, if present and easy to do. Continue rinsing.

**After ingestion**

Observe risk of aspiration if vomiting occurs.
Call a physician immediately.

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

Irritant
Vapours may cause drowsiness and dizziness.
Narcotic effects
Gastrointestinal complaints
Corneal opacity.

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

No data available

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

**Suitable extinguishing media**

Carbon dioxide (CO2)
Foam
Extinguishing powder

**Unsuitable extinguishing media**

no restriction

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

Combustible liquids
Hazardous combustion products
In case of fire may be liberated: Carbon dioxide (CO2) Carbon monoxide
Vapours are heavier than air, spread along floors and form explosive mixtures with air.
Heating causes rise in pressure with risk of bursting.
Beware of reignition.

### 5.3. Advice for firefighters

In case of fire: Wear self-contained breathing apparatus.
In case of fire and/or explosion do not breathe fumes.
Avoid contact with skin, eyes and clothes.

**Additional information**

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

Move undamaged containers from immediate hazard area if it can be done safely.
Use water spray jet to protect personnel and to cool endangered containers.

## SECTION 6: Accidental release measures

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

**General advice**

Keep away from sources of ignition - No smoking.
This material can be ignited by heat, sparks, flames, or other sources of ignition (e.g., static electricity, pilot lights, mechanical/electrical equipment, and electronic devices such as cell phones, computers, calculators, and pagers which have not been certified as intrinsically safe).
Take action to prevent static discharges.

**For non-emergency personnel**

Provide adequate ventilation.
Use personal protection equipment.
Avoid contact with skin, eyes and clothes.
Remove persons to safety.
Emergency procedures
Consult an expert
Do not breathe dust/fume/gas/mist/vapours/spray.

**For emergency responders**

Precautionary statements For emergency responders : Personal protection equipment: see section 8

### 6.2. Environmental precautions

Do not allow to enter into surface water or drains.
The vapour of the product is heavier than air and may accumulate below ground level, in pits, channels and basements in higher concentration.
Danger of explosion

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

**For containment**

Cover drains.
Prevent spread over a wide area (e.g. by containment or oil barriers).
Collect in closed and suitable containers for disposal.
Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).

**For cleaning up**

Clean contaminated articles and floor according to the environmental legislation.

**Other information**

Provide adequate ventilation.
Do not breathe dust/fume/gas/mist/vapours/spray.
Wear breathing apparatus if exposed to vapours/dusts/aerosols.

### 6.4. Reference to other sections

Safe handling: see section 7
Personal protection equipment: see section 8
Disposal: see section 13

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

**Advice on safe handling**

Avoid exposure - obtain special instructions before use.
Read label before use. Handle and open container with care.
When using do not eat, drink, smoke, sniff. Keep container tightly closed.
Use personal protection equipment. Use extractor hood (laboratory).
Provide adequate ventilation. Do not breathe vapour.

**Advice on protection against fire and explosion**

Take action to prevent static discharges. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

**Advice on general occupational hygiene**

Keep away from food, drink and animal feedingstuffs.
The choice of body protection depends on the concentration and quantity of hazardous substances. The chemical resistance of protective agents must be clarified with their suppliers.

**Further information on handling**

Take off immediately all contaminated clothing and wash it before reuse.
Draw up and observe skin protection programme. Wash hands and face before breaks and after work and take a shower if necessary. If handled uncovered, arrangements with local exhaust ventilation have to be used.

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

**Requirements for storage rooms and vessels**

Keep in a cool, well-ventilated place.
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

**Hints on joint storage**

national regulations

**Further information on storage conditions**

Keep container tightly closed and dry.
Keep cool. Protect from sunlight.
storage temperature +5°C - +30°C

### 7.3. Specific end use(s)

Laboratory chemicals

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

**Occupational exposure limits**

| CAS No | Substance | ppm | mg/m³ | fib/cm³ | Category | Origin |
|---|---|---|---|---|---|---|
| 110-54-3 | n-Hexane | 20 | 72 | | TWA (8 h) | |

**Biological limit values**

| CAS No | Substance | Parameter | Value | Test material | Sampling time |
|---|---|---|---|---|---|
| 110-54-3 | Hexane | 2,5-Hexanedion | 0.4 mg/L | Urine | End of shift at end of workweek |

**DNEL/DMEL values**

| CAS No | Substance | | | |
|---|---|---|---|---|
| DNEL type | | Exposure route | Effect | Value |
| 110-54-3 | n-hexane | | | |
| Worker DNEL, long-term | | inhalation | systemic | 75 mg/m³ |
| Worker DNEL, long-term | | dermal | systemic | 11 mg/kg bw/day |
| Consumer DNEL, long-term | | inhalation | systemic | 16 mg/m³ |
| Consumer DNEL, long-term | | dermal | systemic | 5,3 mg/kg bw/day |
| Consumer DNEL, long-term | | oral | systemic | 4 mg/kg bw/day |

### 8.2. Exposure controls

**Appropriate engineering controls**

Technical measures and the application of suitable work processes have priority over personal protection equipment.

If handled uncovered, arrangements with local exhaust ventilation have to be used.

**Individual protection measures, such as personal protective equipment**

**Eye/face protection**

goggles

Face protection umbrella

**Hand protection**

Protective gloves are recommended Company KCL GmbH, D-36124 Eichenzell, email: vertrieb@kcl.de With specification (test according to EN374):

By long-term hand contact
Trade name/designation: KCL 730 Camatril® Velours
Suitable material: NBR (Nitrile rubber) 0,4 mm
Wearing time with permanent contact: > 480 min

By short-term hand contact
Trade name/designation: KCL 890 Vitoject®
Suitable material: FKM (fluoro rubber) 0,7 mm
Wearing time with occasional contact (splashes): > 480 min

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types. 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 EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

**Skin protection**

Take off immediately all contaminated clothing and wash it before reuse.

Wear fire resistant or flame retardant clothing.

Wash hands and face before breaks and after work and take a shower if necessary.

Draw up and observe skin protection programme.

**Respiratory protection**

Wear breathing apparatus if exposed to vapours/dusts/aerosols.

Filtering device with filter or ventilator filtering device of type: A

The entrepeneur 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.

**Thermal hazards**

No data available

**Environmental exposure controls**

Do not allow to enter into surface water or drains.

Due to danger of explosion, prevent leakage of vapours into cellars, flues and ditches.

Danger of explosion

## SECTION 9: Physical and chemical properties

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

| | |
|---|---|
| Physical state: | Liquid |
| Colour: | colourless |
| Odour: | like: Gasoline |
| Odour threshold: | No data available |

| | |
|---|---|
| Melting point/freezing point: | -94,3 °C |
| Boiling point or initial boiling point and boiling range: | 69 °C |
| Flammability: | No data available |
| Lower explosion limits: | 1 vol. % |
| Upper explosion limits: | 8,1 vol. % |
| Flash point: | -22 °C |
| Auto-ignition temperature: | 240 °C |
| Decomposition temperature: | No data available |
| pH-Value: | No data available |
| Viscosity / kinematic: (at 20 °C) | 0,5 mm²/s |
| Water solubility: (at 20 °C) | 0,0095 g/l |

Solubility in other solvents

No data available

| | |
|---|---|
| Dissolution rate: | No data available |
| Partition coefficient n-octanol/water: | log Pow: 4,11 |
| Dispersion stability: | No data available |
| Vapour pressure: (at 20 °C) | 160 hPa |
| Vapour pressure: | No data available |
| Density: | 0,66 g/cm³ |
| Relative density: | No data available |
| Bulk density: | No data available |
| Relative vapour density: | No data available |
| Particle characteristics: | No data available |

## 9.2. Other information

**Information with regard to physical hazard classes**

Explosive properties

Vapours are heavier than air, spread along floors and form explosive mixtures with air.

| | |
|---|---|
| Sustained combustibility: | Sustained combustibility |

Self-ignition temperature

| | |
|---|---|
| Solid: | No data available |
| Gas: | No data available |

Oxidizing properties

No data available

**Other safety characteristics**

| | |
|---|---|
| Evaporation rate: | No data available |
| Solvent separation test: | No data available |
| Solvent content: | 100% |
| Solid content: | No data available |
| Sublimation point: | No data available |
| Softening point: | No data available |
| Pour point: | No data available |
| | No data available |
| Viscosity / dynamic: (at 20 °C) | 0,326 mPa·s |
| Flow time: | No data available |

**Further Information**

No data available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Vapours may form explosive mixtures with air.

### 10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

### 10.3. Possibility of hazardous reactions

Oxidising agent
NOx

### 10.4. Conditions to avoid

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

### 10.5. Incompatible materials

Plastic articles
Rubber articles

### 10.6. Hazardous decomposition products

SECTION 5: Firefighting measures

### Further information

No data available

## SECTION 11: Toxicological information

### 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

**Toxicocinetics, metabolism and distribution**

No data available

**Acute toxicity**

Based on available data, the classification criteria are not met.
May cause respiratory irritation.
Mucous membrane irritation in the mouth, throat, esophagus and gastrointestinal tract.
Resorption (dermal)

| CAS No | Chemical name | | | | |
|---|---|---|---|---|---|
| | Exposure route | Dose | Species | Source | Method |
| 110-54-3 | n-hexane | | | | |
| | dermal | LD50 > 2000 mg/kg | Rabbit | Study report (1982) | |
| | inhalation (4 h) vapour | LC50 73860 mg/l | Rat | Industrial Medicine, Vol. 39, No. 5, May | OECD Guideline 403 |

**Irritation and corrosivity**

Skin corrosion/irritation: Causes skin irritation.
Serious eye damage/eye irritation: Based on available data, the classification criteria are not met.
Prolonged or repeated skin contact may cause removal of natural fat from the skin resulting in dermatitis (skin inflammation).

**Sensitising effects**

Based on available data, the classification criteria are not met.

**Carcinogenic/mutagenic/toxic effects for reproduction**

Suspected of damaging fertility. (n-hexane)
Germ cell mutagenicity: Based on available data, the classification criteria are not met.
Carcinogenicity: Based on available data, the classification criteria are not met.

**STOT-single exposure**

May cause drowsiness or dizziness. (n-hexane)
Organs affected: central nervous system

**STOT-repeated exposure**

May cause damage to organs through prolonged or repeated exposure. (n-hexane)

**Aspiration hazard**

May be fatal if swallowed and enters airways.

**Information on likely routes of exposure**

No data available

**Specific effects in experiment on an animal**

No data available

**Additional information on tests**

No data available

**Practical experience**

No data available

**11.2. Information on other hazards**

**Endocrine disrupting properties**

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

**Other information**

Avoid exposure - obtain special instructions before use.

**Further information**

Irritant
Vapours may cause drowsiness and dizziness.
Narcotic effects
Gastrointestinal complaints
Corneal opacity.

## SECTION 12: Ecological information

**12.1. Toxicity**

Toxic to aquatic life with long lasting effects.

| CAS No | Chemical name | | | | | |
|---|---|---|---|---|---|---|
| | Aquatic toxicity | Dose | [h] \| [d] | Species | Source | Method |
| 110-54-3 | n-hexane | | | | | |
| | Acute algae toxicity | ErC50 9,285 mg/l | 72 h | Pseudokirchneriella subcapitata | CONCAWE, Brussels, Belgium (2009) | The aquatic toxicity was estimated by a |
| | Acute crustacea toxicity | EC50 21,85 mg/l | 48 h | Daphnia magna | CONCAWE, Brussels, Belgium (2009) | The aquatic toxicity was estimated by a |
| | Fish toxicity | NOEC 2,8 mg/l | 28 d | Oncorhynchus mykiss | CONCAWE, Brussels, Belgium (2009) | The aquatic toxicity was estimated by a |
| | Crustacea toxicity | NOEC 4,888 mg/l | 21 d | Daphnia magna | CONCAWE, Brussels, Belgium (2009) | The aquatic toxicity was estimated by a |

**12.2. Persistence and degradability**

No data available

**12.3. Bioaccumulative potential**

log Pow: 4,11

Bioaccumulative potential

**Partition coefficient n-octanol/water**

| CAS No | Chemical name | Log Pow |
|---|---|---|
| 110-54-3 | n-hexane | 4 |

**BCF**

| CAS No | Chemical name | BCF | Species | Source |
|---|---|---|---|---|
| 110-54-3 | n-hexane | 501,187 | Pimephales promelas | QSAR in Environmenta |

**12.4. Mobility in soil**

No data available

**12.5. Results of PBT and vPvB assessment**

This substance does not meet the PBT/vPvB criteria of REACH, annex XIII.

**12.6. Endocrine disrupting properties**

This substance does not have endocrine disrupting properties with respect to non-target organisms.

**12.7. Other adverse effects**

Do not allow to enter into surface water or drains.
Avoid release to the environment.

**Further information**

No data available

## SECTION 13: Disposal considerations

**13.1. Waste treatment methods**

**Disposal recommendations**

Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste.
Send to a physico-chemical treatment facility under observation of official regulations.
Do not empty into drains.

**Contaminated packaging**

Handle contaminated packages in the same way as the substance itself.
The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

## SECTION 14: Transport information

**Land transport (ADR/RID)**

| | |
|---|---|
| **14.1. UN number or ID number:** | UN 1208 |
| **14.2. UN proper shipping name:** | HEXANES |
| **14.3. Transport hazard class(es):** | 3 |
| **14.4. Packing group:** | II |
| Hazard label: | 3 |
| Classification code: | F1 |
| Limited quantity: | 1 L |
| Excepted quantity: | E2 |
| Transport category: | 2 |
| Hazard No: | 33 |
| Tunnel restriction code: | D/E |

**Inland waterways transport (ADN)**

| | |
|---|---|
| **14.1. UN number or ID number:** | UN 1208 |
| **14.2. UN proper shipping name:** | HEXANES |
| **14.3. Transport hazard class(es):** | 3 |
| **14.4. Packing group:** | II |
| Hazard label: | 3 |

| | |
|---|---|
| Classification code: | F1 |
| Limited quantity: | 1 L |
| Excepted quantity: | E2 |

**Marine transport (IMDG)**

| | |
|---|---|
| **14.1. UN number or ID number:** | UN 1208 |
| **14.2. UN proper shipping name:** | HEXANES |
| **14.3. Transport hazard class(es):** | 3 |
| **14.4. Packing group:** | II |
| Hazard label: | 3 |
| Marine pollutant: | P |
| Special Provisions: | - |
| Limited quantity: | 1 L |
| Excepted quantity: | E2 |
| EmS: | F-E, S-D |

**Air transport (ICAO-TI/IATA-DGR)**

| | |
|---|---|
| **14.1. UN number or ID number:** | UN 1208 |
| **14.2. UN proper shipping name:** | HEXANES |
| **14.3. Transport hazard class(es):** | 3 |
| **14.4. Packing group:** | II |
| Hazard label: | 3 |
| Limited quantity Passenger: | 1 L |
| Passenger LQ: | Y341 |
| Excepted quantity: | E2 |
| IATA-packing instructions - Passenger: | 353 |
| IATA-max. quantity - Passenger: | 5 L |
| IATA-packing instructions - Cargo: | 364 |
| IATA-max. quantity - Cargo: | 60 L |

**14.5. Environmental hazards**

| | |
|---|---|
| ENVIRONMENTALLY HAZARDOUS: | Yes |
| Danger releasing substance: | n-hexane |

## SECTION 15: Regulatory information

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

**EU regulatory information**

Restrictions on use (REACH, annex XVII):
Entry 3, Entry 40, Entry 75

| | |
|---|---|
| Information according to Directive 2012/18/EU (SEVESO III): | E2 Hazardous to the Aquatic Environment |
| Additional information: | P5c |

**National regulatory information**

| | |
|---|---|
| Employment restrictions: | Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers. |
| Water hazard class (D): | 3 - highly hazardous to water |

## SECTION 16: Other information

**Changes**

This data sheet contains changes from the previous version in section(s): 1,8,11,15.

**Abbreviations and acronyms**

Flam. Liq: Flammable liquid
Asp. Tox: Aspiration hazard
Skin Irrit: Skin irritation
Repr: Reproductive toxicity
STOT SE: Specific target organ toxicity - single exposure
STOT RE: Specific target organ toxicity - repeated exposure
Aquatic Chronic: Chronic aquatic hazard

**Relevant H and EUH statements (number and full text)**

| | |
|---|---|
| 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 (central nervous system) through prolonged or repeated exposure if inhaled. |
| H373 | May cause damage to organs through prolonged or repeated exposure. |
| H411 | Toxic to aquatic life with long lasting effects. |

**Further Information**

Provide appropriate information, instructions and training to users
The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.
The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights.
The receiver of our product is singularly responsible for adhering to existing laws and regulations.