

# Safety Data Sheet

acc. to OSHA HCS

Printing date 11/20/2017

Reviewed on 11/20/2017

## 1 Identification

- **Product identifier**
- **Trade name:** *n-Hexane (UV) >60%, HPLC Grade*
- **Article number:** *H1952*
- **CAS Number:**  
*110-54-3*
- **EC number:**  
*203-777-6*
- **Index number:**  
*601-037-00-0*
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
*Aqua Solutions, Inc.*  
*6913 Highway 225*  
*DEER PARK, TX 77536*  
*USA*  
*800-256-2586*
- **Information department:**  
*Technical Coordinator*  
*Sherman Nelson sherman@aquasolutions.org*
- **Emergency telephone number:**  
*Chemtec: 800-424-9300*  
*Canutec: 613-996-6666*



## 2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS02 Flame

*Flam. Liq. 2 H225 Highly flammable liquid and vapor.*



GHS08 Health hazard

*Repr. 2 H361 Suspected of damaging fertility or the unborn child.*

*STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.*

*Asp. Tox. 1 H304 May be fatal if swallowed and enters airways.*



GHS07

*Skin Irrit. 2 H315 Causes skin irritation.*

*STOT SE 3 H336 May cause drowsiness or dizziness.*

- **Label elements**
- **GHS label elements** *The substance is classified and labeled according to the Globally Harmonized System (GHS).*

(Contd. on page 2)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 11/20/2017

Reviewed on 11/20/2017

Trade name: *n*-Hexane (UV) >60%, HPLC Grade

(Contd. of page 1)

· **Hazard pictograms**

GHS02   GHS07   GHS08

· **Signal word** *Danger*· **Hazard statements***Highly flammable liquid and vapor.**Causes skin irritation.**Suspected of damaging fertility or the unborn child.**May cause drowsiness or dizziness.**May cause damage to organs through prolonged or repeated exposure.**May be fatal if swallowed and enters airways.*· **Precautionary statements***Obtain special instructions before use.**Do not handle until all safety precautions have been read and understood.**Keep away from heat/sparks/open flames/hot surfaces. - No smoking.**Ground/bond container and receiving equipment.**Use explosion-proof electrical/ventilating/lighting/equipment.**Use only non-sparking tools.**Take precautionary measures against static discharge.**Do not breathe dust/fume/gas/mist/vapors/spray.**Wash thoroughly after handling.**Use only outdoors or in a well-ventilated area.**Wear protective gloves/protective clothing/eye protection/face protection.**If swallowed: Immediately call a poison center/doctor.**If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.**IF INHALED: Remove person to fresh air and keep comfortable for breathing.**IF exposed or concerned: Get medical advice/attention.**Call a poison center/doctor if you feel unwell.**Get medical advice/attention if you feel unwell.**Specific treatment (see on this label).**Do NOT induce vomiting.**If skin irritation occurs: Get medical advice/attention.**Take off contaminated clothing and wash it before reuse.**In case of fire: Use for extinction: CO<sub>2</sub>, powder or water spray.**Store in a well-ventilated place. Keep container tightly closed.**Store in a well-ventilated place. Keep cool.**Store locked up.**Dispose of contents/container in accordance with local/regional/national/international regulations.*· **Classification system:**· **NFPA ratings (scale 0 - 4)**

Health = 1

Fire = 3

Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**

HEALTH 1 Health = 1

FIRE 3 Fire = 3

REACTIVITY 0 Reactivity = 0

(Contd. on page 3)

US

# Safety Data Sheet

acc. to OSHA HCS

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Reviewed on 11/20/2017

**Trade name: n-Hexane (UV) >60%, HPLC Grade**

(Contd. of page 2)

- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

### 3 Composition/information on ingredients

- **Chemical characterization: Substances**
- **CAS No. Description**  
110-54-3 Hexane
- **Identification number(s)**
- **EC number:** 203-777-6
- **Index number:** 601-037-00-0

### 4 First-aid measures

- **Description of first aid measures**
- **General information:**  
Immediately remove any clothing soiled by the product.  
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- **After inhalation:** In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:** Rinse opened eye for several minutes under running water.
- **After swallowing:** If symptoms persist consult doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

### 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**  
CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **Special hazards arising from the substance or mixture**  
During heating or in case of fire poisonous gases are produced.
- **Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
Mount respiratory protective device.  
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Dispose contaminated material as waste according to item 13.  
Ensure adequate ventilation.

(Contd. on page 4)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 11/20/2017

Reviewed on 11/20/2017

**Trade name: n-Hexane (UV) >60%, HPLC Grade**

(Contd. of page 3)

- **Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.
- **Protective Action Criteria for Chemicals**
- **PAC-1:** 260 ppm
- **PAC-2:** 2900\* ppm
- **PAC-3:** 8600\*\* ppm

## 7 Handling and storage

- **Handling:**
- **Precautions for safe handling**  
Ensure good ventilation/exhaustion at the workplace.  
Open and handle receptacle with care.  
Prevent formation of aerosols.
- **Information about protection against explosions and fires:**  
Keep ignition sources away - Do not smoke.  
Protect against electrostatic charges.  
Keep respiratory protective device available.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store in a cool location.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**  
Keep receptacle tightly sealed.  
Store in cool, dry conditions in well sealed receptacles.
- **Specific end use(s)** No further relevant information available.

## 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**

- **Components with limit values that require monitoring at the workplace:**

**CAS: 110-54-3 Hexane**

PEL Long-term value: 1800 mg/m<sup>3</sup>, 500 ppm

REL Long-term value: 180 mg/m<sup>3</sup>, 50 ppm

TLV Long-term value: 176 mg/m<sup>3</sup>, 50 ppm  
Skin; BEI

- **Ingredients with biological limit values:**

**CAS: 110-54-3 Hexane**

BEI 0.4 mg/L

LD50 Intraperitoneal: urine

Time: end of shift at end of workweek

LD50: 2.5-Hexanedione without hydrolysis

- **Additional information:** The lists that were valid during the creation were used as basis.

(Contd. on page 5)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 11/20/2017

Reviewed on 11/20/2017

**Trade name: n-Hexane (UV) >60%, HPLC Grade**

(Contd. of page 4)

- **Exposure controls**

- **Personal protective equipment:**

- **General protective and hygienic measures:**

*Keep away from foodstuffs, beverages and feed.*

*Immediately remove all soiled and contaminated clothing.*

*Wash hands before breaks and at the end of work.*

*Store protective clothing separately.*

*Avoid contact with the skin.*

*Avoid contact with the eyes and skin.*

- **Breathing equipment:**

*In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.*

- **Protection of hands:**



Protective gloves

*The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.*

*Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.*

*Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation*

- **Material of gloves**

*The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.*

- **Penetration time of glove material**

*The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.*

- **Eye protection:**



Tightly sealed goggles

- **Body protection:** Protective work clothing

## 9 Physical and chemical properties

- **Information on basic physical and chemical properties**

- **General Information**

- **Appearance:**

**Form:** Liquid

**Color:** Colorless

- **Odor:** Sweetish

- **Odor threshold:** Not determined.

- **pH-value:** Not determined.

- **Change in condition**

**Melting point/Melting range:** -95 °C (-139 °F)

**Boiling point/Boiling range:** 69 °C (156.2 °F)

- **Flash point:** -26 °C (-14.8 °F)

(Contd. on page 6)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 11/20/2017

Reviewed on 11/20/2017

Trade name: *n*-Hexane (UV) >60%, HPLC Grade

(Contd. of page 5)

· <b>Flammability (solid, gaseous):</b>	Not applicable.
· <b>Ignition temperature:</b>	240 °C (464 °F)
· <b>Decomposition temperature:</b>	Not determined.
· <b>Auto igniting:</b>	Not determined.
· <b>Danger of explosion:</b>	Product is not explosive. However, formation of explosive air/vapor mixtures are possible.
· <b>Explosion limits:</b>	
<b>Lower:</b>	1.2 Vol %
<b>Upper:</b>	7.4 Vol %
· <b>Vapor pressure at 20 °C (68 °F):</b>	160 hPa (120 mm Hg)
· <b>Density at 20 °C (68 °F):</b>	0.66 g/cm <sup>3</sup> (5.5077 lbs/gal)
· <b>Relative density</b>	Not determined.
· <b>Vapor density</b>	Not determined.
· <b>Evaporation rate</b>	Not determined.
· <b>Solubility in / Miscibility with Water at 20 °C (68 °F):</b>	0.1 g/l
· <b>Partition coefficient (n-octanol/water):</b>	Not determined.
· <b>Viscosity:</b>	
<b>Dynamic:</b>	Not determined.
<b>Kinematic:</b>	Not determined.
· <b>Other information</b>	No further relevant information available.

## 10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

## 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

### · LD/LC50 values that are relevant for classification:

Oral	LD50	25,000 mg/kg (rat)
Inhalative	LC50/4 h	48,000 mg/l (rat)

- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.

(Contd. on page 7)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 11/20/2017

Reviewed on 11/20/2017

**Trade name: n-Hexane (UV) >60%, HPLC Grade**

(Contd. of page 6)

- **Additional toxicological information:**
- **Carcinogenic categories**
- **IARC (International Agency for Research on Cancer)** Substance is not listed.
- **NTP (National Toxicology Program)** Substance is not listed.
- **OSHA-Ca (Occupational Safety & Health Administration)** Substance is not listed.

## 12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**  
Water hazard class 2 (Assessment by list): hazardous for water  
Do not allow product to reach ground water, water course or sewage system.  
Danger to drinking water if even small quantities leak into the ground.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

## 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**  
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

## 14 Transport information

- |                                  |         |
|----------------------------------|---------|
| · <b>UN-Number</b>               |         |
| · <b>DOT, IMDG, IATA</b>         | UN1208  |
| · <b>UN proper shipping name</b> |         |
| · <b>DOT</b>                     | Hexanes |
| · <b>IMDG, IATA</b>              | HEXANES |

- **Transport hazard class(es)**

- **DOT**



- **Class** 3 Flammable liquids

(Contd. on page 8)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 11/20/2017

Reviewed on 11/20/2017

Trade name: *n*-Hexane (UV) >60%, HPLC Grade

(Contd. of page 7)

· **Label** 3· **IMDG, IATA**

· **Class** 3 Flammable liquids  
 · **Label** 3

· **Packing group**  
 · **DOT, IMDG, IATA** II

· **Environmental hazards:** Environmentally hazardous substance, liquid  
 · **Marine pollutant:** No

· **Special precautions for user** Warning: Flammable liquids  
 · **Danger code (Kemler):** 33  
 · **EMS Number:** F-E,S-D  
 · **Stowage Category** E

· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.

· **Transport/Additional information:**

· **DOT**  
 · **Quantity limitations** On passenger aircraft/rail: 5 L  
 On cargo aircraft only: 60 L  
 · **Hazardous substance:** 5000 lbs, 2270 kg

· **IMDG**

· **Limited quantities (LQ)** 1L  
 · **Excepted quantities (EQ)** Code: E2  
 Maximum net quantity per inner packaging: 30 ml  
 Maximum net quantity per outer packaging: 500 ml

· **UN "Model Regulation":** UN 1208 HEXANES, 3, II

## 15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Sara**
- **Section 355 (extremely hazardous substances):** Substance is not listed.
- **Section 313 (Specific toxic chemical listings):** Substance is listed.

· **TSCA (Toxic Substances Control Act):**

Hexane

- **Proposition 65**
- **Chemicals known to cause cancer:** Substance is not listed.
- **Chemicals known to cause reproductive toxicity for females:** Substance is not listed.
- **Chemicals known to cause reproductive toxicity for males:** Substance is not listed.
- **Chemicals known to cause developmental toxicity:** Substance is not listed.

· **Carcinogenic categories**

- **EPA (Environmental Protection Agency) II**
- **TLV (Threshold Limit Value established by ACGIH)** Substance is not listed.

(Contd. on page 9)



# Safety Data Sheet

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**Trade name: n-Hexane (UV) >60%, HPLC Grade**

(Contd. of page 8)

- **NIOSH-Ca (National Institute for Occupational Safety and Health) Substance is not listed.**
- **GHS label elements** The substance is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



- **Signal word** *Danger*
- **Hazard statements**
  - Highly flammable liquid and vapor.*
  - Causes skin irritation.*
  - Suspected of damaging fertility or the unborn child.*
  - May cause drowsiness or dizziness.*
  - May cause damage to organs through prolonged or repeated exposure.*
  - May be fatal if swallowed and enters airways.*
- **Precautionary statements**
  - Obtain special instructions before use.*
  - Do not handle until all safety precautions have been read and understood.*
  - Keep away from heat/sparks/open flames/hot surfaces. - No smoking.*
  - Ground/bond container and receiving equipment.*
  - Use explosion-proof electrical/ventilating/lighting/equipment.*
  - Use only non-sparking tools.*
  - Take precautionary measures against static discharge.*
  - Do not breathe dust/fume/gas/mist/vapors/spray.*
  - Wash thoroughly after handling.*
  - Use only outdoors or in a well-ventilated area.*
  - Wear protective gloves/protective clothing/eye protection/face protection.*
  - If swallowed: Immediately call a poison center/doctor.*
  - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.*
  - IF INHALED: Remove person to fresh air and keep comfortable for breathing.*
  - IF exposed or concerned: Get medical advice/attention.*
  - Call a poison center/doctor if you feel unwell.*
  - Get medical advice/attention if you feel unwell.*
  - Specific treatment (see on this label).*
  - Do NOT induce vomiting.*
  - If skin irritation occurs: Get medical advice/attention.*
  - Take off contaminated clothing and wash it before reuse.*
  - In case of fire: Use for extinction: CO2, powder or water spray.*
  - Store in a well-ventilated place. Keep container tightly closed.*
  - Store in a well-ventilated place. Keep cool.*
  - Store locked up.*
  - Dispose of contents/container in accordance with local/regional/national/international regulations.*
- **Chemical safety assessment:** *A Chemical Safety Assessment has not been carried out.*

## 16 Other information

*This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.*

- **Department issuing SDS:** *Environment protection department.*
- **Contact:**

(Contd. on page 10)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 11/20/2017

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(Contd. of page 9)

· **Date of preparation / last revision**

Creation date for SDS 02-18-2014. STN

11-20-2017: review SDS for accuracy. STN

11/20/2017 / -

· **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

BEI: Biological Exposure Limit

Flam. Liq. 2: Flammable liquids – Category 2

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Repr. 2: Reproductive toxicity – Category 2

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2

Asp. Tox. 1: Aspiration hazard – Category 1

US