

# Safety Data Sheet

acc. to OSHA HCS

Printing date 04/15/2019

Reviewed on 04/15/2019

## 1 Identification

- **Product identifier**
- **Trade name:** Calibration Standard  
ASTM D6379-D
- **Article number:** HOU064
- **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:**  
Chemtrec: 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

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 product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS02



GHS07



GHS08

- **Signal word** Danger
- **Hazard-determining components of labeling:**  
n-Heptane  
Cyclohexane

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- **Hazard statements**

Highly flammable liquid and vapor.  
Causes skin irritation.  
May cause drowsiness or dizziness.  
May be fatal if swallowed and enters airways.

- **Precautionary statements**

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.  
Avoid breathing 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.  
Specific treatment (see on this label).  
Do NOT induce vomiting.  
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.  
Call a poison center/doctor if you feel unwell.  
Take off contaminated clothing and wash it before reuse.  
If skin irritation occurs: Get medical advice/attention.  
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  
Fire = 3  
Reactivity = 0

- **Other hazards**

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.
- **vPvB:** Not applicable.

## 3 Composition/information on ingredients

- **Chemical characterization: Mixtures**

- **Description:** Mixture of the substances listed below with nonhazardous additions.

- **Dangerous components:**

CAS: 142-82-5   n-Heptane	99.633%
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### · Table of Nonhazardous Ingredients

CAS: 95-47-6	<i>o</i> -Xylene	0.147%
CAS: 110-82-7	Cyclohexane	0.147%
CAS: 90-12-0	<i>l</i> -methylnaphthalene	0.0735%

## 4 First-aid measures

- **Description of first aid measures**
- **General information:** Immediately remove any clothing soiled by the product.
- **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** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

## 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
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.
- **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:

CAS: 142-82-5	<i>n</i> -Heptane	500 ppm
CAS: 110-82-7	Cyclohexane	300 ppm
CAS: 90-12-0	<i>l</i> -methylnaphthalene	20 mg/m <sup>3</sup>

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· <b>PAC-2:</b>		
CAS: 142-82-5	<i>n</i> -Heptane	830 ppm
CAS: 110-82-7	Cyclohexane	1700* ppm
CAS: 90-12-0	1-methylnaphthalene	61 mg/m <sup>3</sup>
· <b>PAC-3:</b>		
CAS: 142-82-5	<i>n</i> -Heptane	5000* ppm
CAS: 110-82-7	Cyclohexane	10000** ppm
CAS: 90-12-0	1-methylnaphthalene	360 mg/m <sup>3</sup>

## 7 Handling and storage

- **Handling:**
- **Precautions for safe handling**  
Ensure good ventilation/exhaustion at the workplace.  
Prevent formation of aerosols.
- **Information about protection against explosions and fires:**  
Keep ignition sources away - Do not smoke.  
Protect against electrostatic charges.
- **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**

· <b>Components with limit values that require monitoring at the workplace:</b>	
<b>CAS: 142-82-5 n-Heptane</b>	
PEL	Long-term value: 2000 mg/m <sup>3</sup> , 500 ppm
REL	Long-term value: 350 mg/m <sup>3</sup> , 85 ppm Ceiling limit value: 1800* mg/m <sup>3</sup> , 440* ppm *15-min
TLV	Short-term value: 2050 mg/m <sup>3</sup> , 500 ppm Long-term value: 1640 mg/m <sup>3</sup> , 400 ppm

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

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*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. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.*

· **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:**

<b>Form:</b>	Liquid
<b>Color:</b>	Colorless
<b>Odor:</b>	Organic
<b>Odor threshold:</b>	Not determined.

· **pH-value:** Not determined.

· **Change in condition**

<b>Melting point/Melting range:</b>	-90.5 °C (-130.9 °F)
<b>Boiling point/Boiling range:</b>	98 °C (208.4 °F)

· **Flash point:** -4 °C (24.8 °F)

· **Flammability (solid, gaseous):** Not applicable.

· **Ignition temperature:** 215 °C (419 °F)

· **Decomposition temperature:** Not determined.

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· <b>Auto igniting:</b>	Product is not selfigniting.
· <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>	1.1 Vol %
<b>Upper:</b>	6.7 Vol %
· <b>Vapor pressure at 20 °C (68 °F):</b>	48 hPa (36 mm Hg)
· <b>Density at 20 °C (68 °F):</b>	0.68068 g/cm <sup>3</sup> (5.68027 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>	0.05 g/l
· <b>Partition coefficient (n-octanol/water):</b>	Not determined.
· <b>Viscosity:</b>	
<b>Dynamic at 20 °C (68 °F):</b>	0.4 mPas
<b>Kinematic:</b>	Not determined.
· <b>Solvent content:</b>	
<b>Organic solvents:</b>	99.9 %
<b>VOC content:</b>	99.93 %
	680.2 g/l / 5.68 lb/gal
<b>Solids content:</b>	0.0 %
· <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:**
- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**  
The product shows the following dangers according to internally approved calculation methods for preparations:  
Irritant

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- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

CAS: 95-47-6 | o-Xylene

3

- **NTP (National Toxicology Program)**

None of the ingredients is listed.

- **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is 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 (Self-assessment): 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

- **UN-Number**

- **DOT, IMDG, IATA**

UN1993

- **UN proper shipping name**

- **DOT**

Flammable liquids, n.o.s. (Heptanes)

- **IMDG**

FLAMMABLE LIQUID, N.O.S. (HEPTANES), MARINE POLLUTANT

- **IATA**

FLAMMABLE LIQUID, N.O.S. (HEPTANES)

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· **Transport hazard class(es)**

· **DOT**



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

· **IMDG**



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

· **IATA**



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

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

II

· **Environmental hazards:** Product contains environmentally hazardous substances: n-Heptane  
· **Marine pollutant:** Symbol (fish and tree)

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

· **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

· **IMDG**

· **Limited quantities (LQ)** 5L  
· **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 1993 FLAMMABLE LIQUID, N.O.S. (HEPTANES), 3, II

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## 15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
- Sara

· **Section 355 (extremely hazardous substances):**

None of the ingredients is listed.

· **Section 313 (Specific toxic chemical listings):**

CAS: 95-47-6 | *o*-Xylene

CAS: 110-82-7 | Cyclohexane

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

<i>n</i> -Heptane	ACTIVE
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<i>o</i> -Xylene	ACTIVE
------------------	--------

Cyclohexane	ACTIVE
-------------	--------

1-methylnaphthalene	ACTIVE
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· **Hazardous Air Pollutants**

CAS: 95-47-6 | *o*-Xylene

· **Proposition 65**

· **Chemicals known to cause cancer:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

CAS: 142-82-5   <i>n</i> -Heptane	D
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CAS: 95-47-6   <i>o</i> -Xylene	I
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CAS: 110-82-7   Cyclohexane	I
-----------------------------	---

· **TLV (Threshold Limit Value established by ACGIH)**

CAS: 95-47-6   <i>o</i> -Xylene	A4
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CAS: 90-12-0   1-methylnaphthalene	A4
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· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

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

· **Hazard pictograms**



GHS02

GHS07

GHS08

- **Signal word** *Danger*

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- **Hazard-determining components of labeling:**

*n-Heptane  
Cyclohexane*

- **Hazard statements**

*Highly flammable liquid and vapor.  
Causes skin irritation.  
May cause drowsiness or dizziness.  
May be fatal if swallowed and enters airways.*

- **Precautionary statements**

*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.  
Avoid breathing 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.  
Specific treatment (see on this label).  
Do NOT induce vomiting.  
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.  
Call a poison center/doctor if you feel unwell.  
Take off contaminated clothing and wash it before reuse.  
If skin irritation occurs: Get medical advice/attention.  
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.*

- **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:**

- **Date of preparation / last revision**

*Revision 0.0, 04-15-2019: Creation date for SDS. STN  
04/15/2019 / -*

- **Abbreviations and acronyms:**

*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  
ELINCS: European List of Notified Chemical Substances  
CAS: Chemical Abstracts Service (division of the American Chemical Society)  
NFPA: National Fire Protection Association (USA)  
HMIS: Hazardous Materials Identification System (USA)  
VOC: Volatile Organic Compounds (USA, EU)  
PBT: Persistent, Bioaccumulative and Toxic*

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*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*  
*Flam. Liq. 2: Flammable liquids – Category 2*  
*Skin Irrit. 2: Skin corrosion/irritation – Category 2*  
*STOT SE 3: Specific target organ toxicity (single exposure) – Category 3*  
*Asp. Tox. 1: Aspiration hazard – Category 1*

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