

Safety Data Sheet

acc. to OSHA HCS

Printing date 08/15/2024

Reviewed on 08/15/2024

1 Identification

- **Product identifier**
- **Trade name:** Calibration Standard D
ASTM D6379
- **Article number:** HOU074
- **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 shermann@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

Flammable Liquids 2

H225 Highly flammable liquid and vapor.



GHS08 Health hazard

Aspiration Hazard 1

H304 May be fatal if swallowed and enters airways.



GHS07

Skin Irritation 2

H315 Causes skin irritation.

Specific Target Organ Toxicity - Single Exposure 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
o-Xylene
Cyclohexane

(Contd. on page 2)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 08/15/2024

Reviewed on 08/15/2024

Trade name: Calibration Standard D
ASTM D6379

(Contd. of page 1)

· **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 CO₂, powder or water spray to extinguish.
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)**



· **HMIS-ratings (scale 0 - 4)**



· **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%

(Contd. on page 3)

Safety Data Sheet

acc. to OSHA HCS

Printing date 08/15/2024

Reviewed on 08/15/2024

Trade name: Calibration Standard D
ASTM D6379

(Contd. of page 2)

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	1-methylnaphthalene	0.074%

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:**
CO₂, 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 product to reach sewage system or any water course.
Inform respective authorities in case of seepage into water course or sewage system.
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 section 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

(Contd. on page 4)

Safety Data Sheet

acc. to OSHA HCS

Printing date 08/15/2024

Reviewed on 08/15/2024

Trade name: Calibration Standard D
ASTM D6379

(Contd. of page 3)

CAS: 90-12-0	1-methylnaphthalene	20 mg/m ³
· PAC-2:		
CAS: 142-82-5	n-Heptane	830 ppm
CAS: 110-82-7	Cyclohexane	1700* ppm
CAS: 90-12-0	1-methylnaphthalene	61 mg/m ³
· PAC-3:		
CAS: 142-82-5	n-Heptane	5000* ppm
CAS: 110-82-7	Cyclohexane	10000** ppm
CAS: 90-12-0	1-methylnaphthalene	360 mg/m ³

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 section 7.
- **Control parameters**

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

CAS: 142-82-5 n-Heptane	
PEL	Long-term value: 2000 mg/m ³ , 500 ppm
REL	Long-term value: 350 mg/m ³ , 85 ppm Ceiling limit value: 1800* mg/m ³ , 440* ppm *15-min
TLV	Short-term value: 500 ppm Long-term value: 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.

(Contd. on page 5)

Safety Data Sheet

acc. to OSHA HCS

Printing date 08/15/2024

Reviewed on 08/15/2024

Trade name: Calibration Standard D
ASTM D6379

(Contd. of page 4)

Wash hands before breaks and at the end of work.

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:**

Form:	Liquid
Color:	Colorless
Odor:	Characteristic
Odor threshold:	Not determined.

· **pH-value:** Not determined.

· **Change in condition**

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

· **Flash point:** -4 °C (24.8 °F)

· **Flammability (solid, gaseous):** Highly flammable.

· **Auto igniting:** 215 °C (419 °F)

· **Decomposition temperature:** Not determined.

(Contd. on page 6)

Safety Data Sheet

acc. to OSHA HCS

Printing date 08/15/2024

Reviewed on 08/15/2024

Trade name: Calibration Standard D
ASTM D6379

(Contd. of page 5)

· Ignition temperature:	Product is not selfigniting.
· Danger of explosion:	Product is not explosive. However, formation of explosive air/vapor mixtures are possible.
· Explosion limits:	
Lower:	1.1 Vol %
Upper:	6.7 Vol %
· Vapor pressure at 20 °C (68 °F):	48 hPa (36 mm Hg)
· Vapor pressure at 50 °C (122 °F):	190 hPa (142.5 mm Hg)
· Density at 20 °C (68 °F):	0.68068 g/cm ³ (5.68027 lbs/gal)
· Relative density	Not determined.
· Vapor density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with Water at 20 °C (68 °F):	0.05 g/l
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
Dynamic at 20 °C (68 °F):	0.4 mPas
Kinematic:	Not determined.
· Solvent content:	
Organic solvents:	99.9 %
VOC content:	99.93 %
	680.2 g/l / 5.68 lb/gal
Solids content:	0.0 %
· Other information	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:

(Contd. on page 7)

Safety Data Sheet

acc. to OSHA HCS

Printing date 08/15/2024

Reviewed on 08/15/2024

Trade name: Calibration Standard D
ASTM D6379

(Contd. of page 6)

Irritant

· **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**

· **IMDG**

· **IATA**

Flammable liquids, n.o.s. (n-Heptane)

FLAMMABLE LIQUID, N.O.S. (n-Heptane, Cyclohexane),
MARINE POLLUTANT

FLAMMABLE LIQUID, N.O.S. (n-Heptane)

(Contd. on page 8)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 08/15/2024

Reviewed on 08/15/2024

Trade name: Calibration Standard D
ASTM D6379

(Contd. of page 7)

· **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

· **Hazard identification number (Kemler code):** 33

· **EMS Number:** F-E,S-D

· **Stowage Category** B

· **Transport in bulk according to Annex II of MARPOL 73/78 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

(Contd. on page 9)

Safety Data Sheet

acc. to OSHA HCS

Printing date 08/15/2024

Reviewed on 08/15/2024

Trade name: Calibration Standard D
ASTM D6379

(Contd. of page 8)

· **UN "Model Regulation":** UN 1993 FLAMMABLE LIQUID, N.O.S. (N-HEPTANE), 3, II

15 Regulatory information

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

No further relevant information available.

· **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):**

n-Heptane

ACTIVE

o-Xylene

ACTIVE

Cyclohexane

ACTIVE

1-methylnaphthalene

ACTIVE

· **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 n-Heptane

D

CAS: 95-47-6 o-Xylene

I

CAS: 110-82-7 Cyclohexane

I

· **TLV (Threshold Limit Value)**

CAS: 95-47-6 o-Xylene

A4

CAS: 90-12-0 1-methylnaphthalene

A4

· **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).

(Contd. on page 10)

Safety Data Sheet

acc. to OSHA HCS

Printing date 08/15/2024

Reviewed on 08/15/2024

Trade name: Calibration Standard D
ASTM D6379

(Contd. of page 9)

· **Hazard pictograms**



GHS02 GHS07 GHS08

· **Signal word** *Danger*

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

n-Heptane
o-Xylene
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 CO2, powder or water spray to extinguish.
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:

· **Date of preparation / last revision**

Revision 1.2, 08-15-2024: Reviewed SDS for accuracy. STN/GW
08/15/2024 / 1.1

(Contd. on page 11)

Safety Data Sheet

acc. to OSHA HCS

Printing date 08/15/2024

Reviewed on 08/15/2024

Trade name: Calibration Standard D
ASTM D6379

(Contd. of page 10)

· **Abbreviations and acronyms:**

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

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

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

Flammable Liquids 2: Flammable liquids – Category 2

Skin Irritation 2: Skin corrosion/irritation – Category 2

Specific Target Organ Toxicity - Single Exposure 3: Specific target organ toxicity (single exposure) – Category 3

Aspiration Hazard 1: Aspiration hazard – Category 1

· *** Data compared to the previous version altered.**

-US-