

# Safety Data Sheet

acc. to OSHA HCS

Printing date 08/06/2018

Reviewed on 08/06/2018

## 1 Identification

- **Product identifier**
- **Trade name:** Naphthalene 0.33% w/v  
in Iso-Octane (PRF) Certified Standard
- **Article number:** ND562
- **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

Carc. 2 H351 Suspected of causing cancer.

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:**  
2,2,4-Trimethylpentane (Iso-Octane)

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· **Hazard statements**

*Highly flammable liquid and vapor.  
Causes skin irritation.  
Suspected of causing cancer.  
May cause drowsiness or dizziness.  
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.  
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.  
IF exposed or concerned: Get medical advice/attention.  
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: 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.*

· **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.

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## 3 Composition/information on ingredients

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

- **Dangerous components:**

CAS: 540-84-1	2,2,4-Trimethylpentane (Iso-Octane)	99.524%
CAS: 91-20-3	Naphthalene	0.476%

## 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: 540-84-1	2,2,4-Trimethylpentane (Iso-Octane)	230 ppm
CAS: 91-20-3	Naphthalene	15 ppm

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· <b>PAC-2:</b>		
CAS: 540-84-1	2,2,4-Trimethylpentane (Iso-Octane)	830 ppm
CAS: 91-20-3	Naphthalene	83 ppm
· <b>PAC-3:</b>		
CAS: 540-84-1	2,2,4-Trimethylpentane (Iso-Octane)	5000* ppm
CAS: 91-20-3	Naphthalene	500 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**

· <b>Components with limit values that require monitoring at the workplace:</b>	
<b>CAS: 540-84-1 2,2,4-Trimethylpentane (Iso-Octane)</b>	
PEL	Long-term value: 2350 mg/m <sup>3</sup> , 500 ppm n-Octane only
TLV	Long-term value: 1401 mg/m <sup>3</sup> , 300 ppm
<b>CAS: 91-20-3 Naphthalene</b>	
PEL	Long-term value: 50 mg/m <sup>3</sup> , 10 ppm
REL	Short-term value: 75 mg/m <sup>3</sup> , 15 ppm Long-term value: 50 mg/m <sup>3</sup> , 10 ppm
TLV	Long-term value: 52 mg/m <sup>3</sup> , 10 ppm Skin; BEI

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

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- **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. 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:** *Sweetish*

· **Odor threshold:** *Not determined.*

· **pH-value:** *Not determined.*

- **Change in condition**

**Melting point/Melting range:** *-107 °C (-160.6 °F)*

**Boiling point/Boiling range:** *98-99 °C (208.4-210.2 °F)*

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· <b>Flash point:</b>	-12 °C (10.4 °F)
· <b>Flammability (solid, gaseous):</b>	Not applicable.
· <b>Ignition temperature:</b>	410 °C (770 °F)
· <b>Decomposition temperature:</b>	Not determined.
· <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>	
Lower:	1.1 Vol %
Upper:	6 Vol %
· <b>Vapor pressure at 20 °C (68 °F):</b>	15 hPa (11.3 mm Hg)
· <b>Density at 20 °C (68 °F):</b>	0.69348 g/cm <sup>3</sup> (5.78709 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:</b>	Not miscible or difficult to mix.
· <b>Partition coefficient (n-octanol/water):</b>	Not determined.
· <b>Viscosity:</b>	
Dynamic at 20 °C (68 °F):	0.51 mPas
Kinematic:	Not determined.
· <b>Solvent content:</b>	
Organic solvents:	99.5 %
VOC content:	99.52 %
	690.2 g/l / 5.76 lb/gal
Solids content:	0.3 %
· <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.

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## 11 Toxicological information

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

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

**ATE (Acute Toxicity Estimate)**

Dermal	LD50	>2,512 mg/kg (rat)
Inhalative	LC50/4h	37.7 mg/l (rat)

**CAS: 91-20-3 Naphthalene**

Oral	LD50	500 mg/kg (ATE)
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- **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

- **Carcinogenic categories**

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

CAS: 91-20-3	Naphthalene	2B
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· **NTP (National Toxicology Program)**

CAS: 91-20-3	Naphthalene	R
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· **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.

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## 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>	UN1993
· <b>UN proper shipping name</b>	
· <b>DOT</b>	Flammable liquids, n.o.s. (Octanes)
· <b>IMDG</b>	FLAMMABLE LIQUID, N.O.S. (OCTANES, NAPHTHALENE, CRUDE), MARINE POLLUTANT
· <b>IATA</b>	FLAMMABLE LIQUID, N.O.S. (OCTANES)
· <b>Transport hazard class(es)</b>	
· <b>DOT</b>	
	
· <b>Class</b>	3 Flammable liquids
· <b>Label</b>	3
· <b>IMDG</b>	
	 
· <b>Class</b>	3 Flammable liquids
· <b>Label</b>	3
· <b>IATA</b>	
	
· <b>Class</b>	3 Flammable liquids
· <b>Label</b>	3
· <b>Packing group</b>	
· <b>DOT, IMDG, IATA</b>	II
· <b>Environmental hazards:</b>	Product contains environmentally hazardous substances: 2,2,4-Trimethylpentane (Iso-Octane)
· <b>Marine pollutant:</b>	Symbol (fish and tree)
· <b>Special precautions for user</b>	Warning: Flammable liquids

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- |  |   |
|--|---|
| <b>· Danger code (Kemler):</b>   | 33  |
| <b>· EMS Number:</b>   | F-E, S-E  |
| <b>· Stowage Category</b>  | B   |
| <b>· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b> |   |
|  | Not applicable.   |
| <b>· Transport/Additional information:</b>                                       |   |
| <b>· DOT</b>   |   |
| <b>· Quantity limitations</b>  | On passenger aircraft/rail: 5 L<br>On cargo aircraft only: 60 L   |
| <b>· IMDG</b>  |   |
| <b>· Limited quantities (LQ)</b>   | 1L  |
| <b>· Excepted quantities (EQ)</b>  | Code: E2<br>Maximum net quantity per inner packaging: 30 ml<br>Maximum net quantity per outer packaging: 500 ml |
| <b>· UN "Model Regulation":</b>  |   |
|  | UN 1993 FLAMMABLE LIQUIDS, N.O.S. (OCTANES), 3, II  |

### 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: 91-20-3 | Naphthalene

- TSCA (Toxic Substances Control Act):

2,2,4-Trimethylpentane (Iso-Octane)

Naphthalene

- Proposition 65

- Chemicals known to cause cancer:

CAS: 91-20-3 | Naphthalene

- 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: 540-84-1 | 2,2,4-Trimethylpentane (Iso-Octane)

II

CAS: 91-20-3 | Naphthalene

C, CBD

- TLV (Threshold Limit Value established by ACGIH)

CAS: 91-20-3 | Naphthalene

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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*

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

*2,2,4-Trimethylpentane (Iso-Octane)*

· **Hazard statements**

*Highly flammable liquid and vapor.*

*Causes skin irritation.*

*Suspected of causing cancer.*

*May cause drowsiness or dizziness.*

*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.*

*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.*

*IF exposed or concerned: Get medical advice/attention.*

*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: 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.*

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· **Department issuing SDS:** Environment protection department.

· **Contact:**

· **Date of preparation / last revision**

Revision 0.1, 08/06/2018: Creation date for SDS. STN  
08/06/2018 / -

· **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

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)

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

Flam. Liq. 2: Flammable liquids – Category 2

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

Carc. 2: Carcinogenicity – Category 2

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

Asp. Tox. 1: Aspiration hazard – Category 1