

# Safety Data Sheet

acc. to OSHA HCS

Printing date 05/22/2024

Reviewed on 05/22/2024

## 1 Identification

- **Product identifier**
- **Trade name:** Nitrogen Stock Std.  
1000 ppm w/v in Iso-Octane
- **Article number:** MOT014
- **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](mailto: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

Carcinogenicity 2

H351 Suspected of causing cancer.

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:**

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

Pyridine

(Contd. on page 2)

US

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acc. to OSHA HCS

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**Trade name: Nitrogen Stock Std.**  
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(Contd. of page 1)

· **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 CO<sub>2</sub>, 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)**

HEALTH	2	Health = 2
FIRE	3	Fire = 3
REACTIVITY	0	Reactivity = 0

· **Other hazards**

· **Results of PBT and vPvB assessment**

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

US

(Contd. on page 3)

# Safety Data Sheet

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Printing date 05/22/2024

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**1000 ppm w/v in Iso-Octane**

(Contd. of page 2)

### 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)	99.184%
CAS: 110-86-1	Pyridine	0.817%

### 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 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.

(Contd. on page 4)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 05/22/2024

Reviewed on 05/22/2024

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**1000 ppm w/v in Iso-Octane**

(Contd. of page 3)

### · Protective Action Criteria for Chemicals

· PAC-1:		
CAS: 540-84-1	2,2,4-Trimethylpentane (Iso-Octane)	230 ppm
CAS: 110-86-1	Pyridine	3 ppm
· PAC-2:		
CAS: 540-84-1	2,2,4-Trimethylpentane (Iso-Octane)	830 ppm
CAS: 110-86-1	Pyridine	19 ppm
· PAC-3:		
CAS: 540-84-1	2,2,4-Trimethylpentane (Iso-Octane)	5000* ppm
CAS: 110-86-1	Pyridine	3600* 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 section 7.
- **Control parameters**

· Components with limit values that require monitoring at the workplace:	
<b>CAS: 540-84-1 2,2,4-Trimethylpentane (Iso-Octane)</b>	
TLV	Long-term value: 300 ppm
<b>CAS: 110-86-1 Pyridine</b>	
PEL	Long-term value: 15 mg/m <sup>3</sup> , 5 ppm
REL	Long-term value: 15 mg/m <sup>3</sup> , 5 ppm
TLV	Long-term value: 1 ppm
A3	

- **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 05/22/2024

Reviewed on 05/22/2024

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**1000 ppm w/v in Iso-Octane**

(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. 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:** Clear

- **Odor:** Sweetish

- **Odor threshold:** Not determined.

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

- **Change in condition**

**Melting point/Melting range:** -107.4 °C (-161.3 °F)

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

(Contd. on page 6)

# Safety Data Sheet

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Reviewed on 05/22/2024

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**1000 ppm w/v in Iso-Octane**

(Contd. of page 5)

· <b>Flash point:</b>	-12 °C (10.4 °F)
· <b>Flammability (solid, gaseous):</b>	Highly flammable.
· <b>Auto igniting:</b>	410 °C (770 °F)
· <b>Decomposition temperature:</b>	Not determined.
· <b>Ignition temperature:</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 Vol %
· <b>Vapor pressure at 20 °C (68 °F):</b>	15 hPa (11.3 mm Hg)
· <b>Density at 20 °C (68 °F):</b>	0.69168 g/cm <sup>3</sup> (5.77207 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>	
<b>Dynamic:</b>	Not determined.
<b>Kinematic:</b>	Not determined.
· <b>Solvent content:</b>	
<b>Organic solvents:</b>	99.2 %
<b>VOC content:</b>	99.18 %
	686.0 g/l / 5.73 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.

US

(Contd. on page 7)

# Safety Data Sheet

acc. to OSHA HCS

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Reviewed on 05/22/2024

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**1000 ppm w/v in Iso-Octane**

(Contd. of page 6)

## 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

- **Carcinogenic categories**

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

CAS: 110-86-1   Pyridine	2B
--------------------------	----

- **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.*

US

(Contd. on page 8)

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**Trade name: Nitrogen Stock Std.**  
**1000 ppm w/v in Iso-Octane**

(Contd. of page 7)

## 14 Transport information

<ul style="list-style-type: none"> <li>· UN-Number</li> <li>· DOT, IMDG, IATA</li> </ul>	<p style="margin: 0;">UN1993</p>
<ul style="list-style-type: none"> <li>· UN proper shipping name</li> <li>· DOT</li> <li>· IMDG</li> <li>· IATA</li> </ul>	<p style="margin: 0;">Flammable liquids, n.o.s. (Octanes)            FLAMMABLE LIQUID, N.O.S. (Octanes), MARINE POLLUTANT            FLAMMABLE LIQUID, N.O.S. (Octanes)</p>
<ul style="list-style-type: none"> <li>· Transport hazard class(es)</li> <li>· DOT</li> </ul>	<div style="text-align: center;">  </div> <p style="margin: 0;">3 Flammable liquids</p>
<ul style="list-style-type: none"> <li>· Class</li> <li>· Label</li> </ul>	<p style="margin: 0;">3</p>
<ul style="list-style-type: none"> <li>· IMDG</li> </ul>	<div style="text-align: center;">  </div>
<ul style="list-style-type: none"> <li>· Class</li> <li>· Label</li> </ul>	<p style="margin: 0;">3 Flammable liquids 3</p>
<ul style="list-style-type: none"> <li>· IATA</li> </ul>	<div style="text-align: center;">  </div>
<ul style="list-style-type: none"> <li>· Class</li> <li>· Label</li> </ul>	<p style="margin: 0;">3 Flammable liquids 3</p>
<ul style="list-style-type: none"> <li>· Packing group</li> <li>· DOT, IMDG, IATA</li> </ul>	<p style="margin: 0;">II</p>
<ul style="list-style-type: none"> <li>· Environmental hazards:</li> <li>· Marine pollutant:</li> </ul>	<p style="margin: 0;">Product contains environmentally hazardous substances: Octanes            Yes            Symbol (fish and tree)</p>
<ul style="list-style-type: none"> <li>· Special precautions for user</li> <li>· Hazard identification number (Kemler code):</li> <li>· EMS Number:</li> <li>· Stowage Category</li> </ul>	<p style="margin: 0;">Warning: Flammable liquids            33            F-E,<u>S-E</u>            B</p>
<ul style="list-style-type: none"> <li>· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</li> </ul>	<p style="margin: 0;">Not applicable.</p>
<ul style="list-style-type: none"> <li>· Transport/Additional information:</li> <li>· DOT</li> <li>· Quantity limitations</li> </ul>	<p style="margin: 0;">On passenger aircraft/rail: 5 L            On cargo aircraft only: 60 L</p>

(Contd. on page 9)



# Safety Data Sheet

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**1000 ppm w/v in Iso-Octane**

(Contd. of page 8)

- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>· <b>IMDG</b></li> <li>· <b>Limited quantities (LQ)</b></li> <li>· <b>Excepted quantities (EQ)</b></li> </ul> | <p style="text-align: center;"><i>IL</i></p> <p style="text-align: center;">Code: E2</p> <p style="text-align: center;">Maximum net quantity per inner packaging: 30 ml</p> <p style="text-align: center;">Maximum net quantity per outer packaging: 500 ml</p> |
| <ul style="list-style-type: none"> <li>· <b>UN "Model Regulation":</b></li> </ul>  | <p style="text-align: center;">UN 1993 FLAMMABLE LIQUID, N.O.S. (OCTANES), 3, II</p>  |

## 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: 110-86-1 | Pyridine

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

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

ACTIVE

Pyridine

ACTIVE

- **Hazardous Air Pollutants**

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

- **Proposition 65**

- **Chemicals known to cause cancer:**

CAS: 110-86-1 | Pyridine

- **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

- **TLV (Threshold Limit Value)**

CAS: 110-86-1 | Pyridine

A3

- **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 05/22/2024

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**Trade name: Nitrogen Stock Std.**  
**1000 ppm w/v in Iso-Octane**

(Contd. of page 9)

· **Hazard pictograms**



GHS02    GHS07    GHS08

· **Signal word** *Danger*

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

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

Pyridine

· **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 CO<sub>2</sub>, 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:*

(Contd. on page 11)

# Safety Data Sheet

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**1000 ppm w/v in Iso-Octane**

(Contd. of page 10)

· **Date of preparation / last revision**

Revision 1.2, 05/21/2024: Reviewed SDS for accuracy. MH/STN  
 05/22/2024

· **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

Carcinogenicity 2: Carcinogenicity – 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