

Safety Data Sheet

acc. to OSHA HCS

Printing date 04/04/2023

Reviewed on 04/04/2023

1 Identification

- **Product identifier**
- **Trade name:** Sulfur Stock Standard
500 ppm w/w in Iso-Octane
- **Article number:** ERL068S
- **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:**
2,2,4-Trimethylpentane (Iso-Octane)
- **Hazard statements**
Highly flammable liquid and vapor.

(Contd. on page 2)

Safety Data Sheet

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Reviewed on 04/04/2023

Trade name: Sulfur Stock Standard
500 ppm w/w in Iso-Octane

(Contd. of page 1)

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)



Health = 1

Fire = 3

Reactivity = 0

· HMIS-ratings (scale 0 - 4)



Health = 2

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: 540-84-1	2,2,4-Trimethylpentane (Iso-Octane)	99.77%
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(Contd. on page 3)

Safety Data Sheet

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Trade name: Sulfur Stock Standard
500 ppm w/w in Iso-Octane

(Contd. of page 2)

· Table of Nonhazardous Ingredients

CAS: 544-40-1 Butyl sulfide	0.23%
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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 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
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· PAC-2:

CAS: 540-84-1 2,2,4-Trimethylpentane (Iso-Octane)	830 ppm
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(Contd. on page 4)

Safety Data Sheet

acc. to OSHA HCS

Printing date 04/04/2023

Reviewed on 04/04/2023

Trade name: Sulfur Stock Standard
500 ppm w/w in Iso-Octane

(Contd. of page 3)

· PAC-3:		
CAS: 540-84-1	2,2,4-Trimethylpentane (Iso-Octane)	5000* ppm

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**

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

CAS: 540-84-1 2,2,4-Trimethylpentane (Iso-Octane)	
TLV	Long-term value: 300 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.*
- 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.

(Contd. on page 5)

Safety Data Sheet

acc. to OSHA HCS

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Reviewed on 04/04/2023

Trade name: Sulfur Stock Standard
500 ppm w/w in Iso-Octane

(Contd. of page 4)

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:** Sulfur

· **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)

· **Flash point:** -12 °C (10.4 °F)

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

· **Ignition temperature:** 410 °C (770 °F)

· **Decomposition temperature:** Not determined.

· **Auto igniting:** 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 Vol %

· **Vapor pressure at 20 °C (68 °F):** 15 hPa (11.3 mm Hg)

· **Density at 20 °C (68 °F):** 0.69234 g/cm³ (5.77758 lbs/gal)

· **Relative density** Not determined.

· **Vapor density** Not determined.

· **Evaporation rate** Not determined.

(Contd. on page 6)

US

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Reviewed on 04/04/2023

Trade name: Sulfur Stock Standard
500 ppm w/w in Iso-Octane

(Contd. of page 5)

- | | |
|---|--|
| · Solubility in / Miscibility with Water: | Not miscible or difficult to mix. |
| · Partition coefficient (n-octanol/water): | Not determined. |
| · Viscosity: | |
| Dynamic: | Not determined. |
| Kinematic: | Not determined. |
| · Solvent content: | |
| Organic solvents: | 99.8 % |
| VOC content: | 99.77 % |
| | 690.7 g/l / 5.76 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:
 Irritant
- **Carcinogenic categories**
- **IARC (International Agency for Research on Cancer)**
 None of the ingredients is listed.
- **NTP (National Toxicology Program)**
 None of the ingredients is listed.
- **OSHA-Ca (Occupational Safety & Health Administration)**
 None of the ingredients is listed.

US

(Contd. on page 7)

Safety Data Sheet

acc. to OSHA HCS

Printing date 04/04/2023

Reviewed on 04/04/2023

Trade name: Sulfur Stock Standard
500 ppm w/w in Iso-Octane

(Contd. of page 6)


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

- | | |
|--|--|
| <ul style="list-style-type: none"> · UN-Number · DOT, IMDG, IATA | <p style="text-align: center;">UN1993</p> |
| <ul style="list-style-type: none"> · UN proper shipping name · DOT · IMDG · IATA | <p style="text-align: center;">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"> · Transport hazard class(es) · DOT | <div style="text-align: center;">  </div> |
| <ul style="list-style-type: none"> · Class · Label | <p style="text-align: center;">3 Flammable liquids
 3</p> |

(Contd. on page 8)

Safety Data Sheet

acc. to OSHA HCS

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Trade name: Sulfur Stock Standard
500 ppm w/w in Iso-Octane

(Contd. of page 7)

· **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: Octanes
· **Marine pollutant:** Symbol (fish and tree)

· **Special precautions for user** Warning: Flammable liquids
· **Hazard identification number (Kemler code):** 33
· **EMS Number:** F-E,S-E
· **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)** 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 1993 FLAMMABLE LIQUID, N.O.S. (OCTANES), 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):**

None of the ingredients is listed.

(Contd. on page 9)

Safety Data Sheet

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500 ppm w/w in Iso-Octane

(Contd. of page 8)

· TSCA (Toxic Substances Control Act):	
2,2,4-Trimethylpentane (Iso-Octane)	ACTIVE
Butyl sulfide	ACTIVE

· Hazardous Air Pollutants	
CAS: 540-84-1	2,2,4-Trimethylpentane (Iso-Octane)

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

· TLV (Threshold Limit Value)	
None of the ingredients is listed.	

· 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**



- Signal word** *Danger*
- Hazard-determining components of labeling:**
2,2,4-Trimethylpentane (Iso-Octane)
- 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.

(Contd. on page 10)

Safety Data Sheet

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Trade name: Sulfur Stock Standard
500 ppm w/w in Iso-Octane

(Contd. of page 9)

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**

Revision 1.0 03/31/2023 Reviewed SDS for accuracy. STN

Revision 0.0, 09-01-2016: creation date for SDS. STN

04/04/2023

• **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.**