

Safety Data Sheet

acc. to OSHA HCS

Printing date 05/16/2024

Reviewed on 05/16/2024

1 Identification

- **Product identifier**
- **Trade name:** Sulfur Standard
10 ppm w/w in Diesel
- **Article number:** LY368
- **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
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**



GHS08 Health hazard

Germ Cell Mutagenicity 1A H340 May cause genetic defects.

Carcinogenicity 2 H351 Suspected of causing cancer.

Flammable Liquids 4 H227 Combustible liquid.

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



GHS08

- **Signal word** Danger
- **Hazard-determining components of labeling:**
Fuels, diesel
Biphenyl
Naphthalene
- **Hazard statements**
Combustible liquid.
May cause genetic defects.
Suspected of causing cancer.
- **Precautionary statements**
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.

(Contd. on page 2)

Safety Data Sheet

acc. to OSHA HCS

Printing date 05/16/2024

Reviewed on 05/16/2024

Trade name: Sulfur Standard
10 ppm w/w in Diesel

(Contd. of page 1)

Keep away from flames and hot surfaces. – No smoking.
 Wear protective gloves/protective clothing/eye protection/face protection.
 IF exposed or concerned: Get medical advice/attention.
 In case of fire: Use CO₂, powder or water spray to extinguish.
 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	2	Fire = 2
REACTIVITY	0	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: 68334-30-5	Fuels, diesel	90.0%
CAS: 91-20-3	Naphthalene	3.0%
CAS: 92-52-4	Biphenyl	1.5%

· **Table of Nonhazardous Ingredients**

CAS: 2551-13-7	trimethyl benzene	1.5%
CAS: 544-40-1	Butyl sulfide	0.005%

4 First-aid measures

· **Description of first aid measures**

- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:** Generally the product does not irritate the skin.
- **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.

US

(Contd. on page 3)

Safety Data Sheet

acc. to OSHA HCS

Printing date 05/16/2024

Reviewed on 05/16/2024

Trade name: Sulfur Standard
10 ppm w/w in Diesel

(Contd. of page 2)

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.
- **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** Not required.
- **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.
- **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: 68334-30-5	Fuels, diesel	300 mg/m ³
CAS: 91-20-3	Naphthalene	15 ppm
CAS: 92-52-4	Biphenyl	0.87 ppm

- **PAC-2:**

CAS: 68334-30-5	Fuels, diesel	3,300 mg/m ³
CAS: 91-20-3	Naphthalene	83 ppm
CAS: 92-52-4	Biphenyl	9.6 ppm

- **PAC-3:**

CAS: 68334-30-5	Fuels, diesel	20,000 mg/m ³
CAS: 91-20-3	Naphthalene	500 ppm
CAS: 92-52-4	Biphenyl	300 ppm

7 Handling and storage

- **Handling:**
- **Precautions for safe handling** Open and handle receptacle with care.
- **Information about protection against explosions and fires:** Keep respiratory protective device available.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep receptacle tightly sealed.

(Contd. on page 4)

Safety Data Sheet

acc. to OSHA HCS

Printing date 05/16/2024

Reviewed on 05/16/2024

Trade name: Sulfur Standard
10 ppm w/w in Diesel

(Contd. of page 3)

· **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: 68334-30-5 Fuels, diesel

TLV Long-term value: 100* mg/m³
 as total hydrocarbons; Skin; *inh. fraction+vapor, A3

CAS: 91-20-3 Naphthalene

PEL Long-term value: 50 mg/m³, 10 ppm

REL Short-term value: 75 mg/m³, 15 ppm
 Long-term value: 50 mg/m³, 10 ppm

TLV Long-term value: 10 ppm
 Skin; BEI, A3

CAS: 92-52-4 Biphenyl

PEL Long-term value: 1 mg/m³, 0.2 ppm

REL Long-term value: 1 mg/m³, 0.2 ppm

TLV Long-term value: 0.2 ppm

· **Ingredients with biological limit values:**

CAS: 91-20-3 Naphthalene

BEI -
 LD50 Intraperitoneal: -
 Time: end of shift
 LD50: 1-Naphthol with hydrolysis + 2-Naphthol with hydrolysis (Nq,Ns)

· **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.
 Wash hands before breaks and at the end of work.
 Store protective clothing separately.

· **Breathing equipment:** Not required.

· **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.

(Contd. on page 5)

Safety Data Sheet

acc. to OSHA HCS

Printing date 05/16/2024

Reviewed on 05/16/2024

Trade name: Sulfur Standard
10 ppm w/w in Diesel

(Contd. of page 4)

- **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:** Goggles recommended during refilling.
- **Body protection:** Protective work clothing

9 Physical and chemical properties

- **Information on basic physical and chemical properties**
- **General Information**
- **Appearance:**
 - **Form:** Liquid
 - **Color:** Clear, colorless to light amber
- **Odor:** Diesel
- **Odor threshold:** Not determined.
- **pH-value:** Not determined.
- **Change in condition**
 - **Melting point/Melting range:** Undetermined.
 - **Boiling point/Boiling range:** Undetermined.
- **Flash point:** >60 °C (>140 °F)
- **Flammability (solid, gaseous):** Not applicable.
- **Decomposition temperature:** Not determined.
- **Ignition temperature:** Product is not selfigniting.
- **Danger of explosion:** Not determined.
- **Explosion limits:**
 - **Lower:** Not determined.
 - **Upper:** Not determined.
- **Vapor pressure:** Not determined.
- **Density:** Not determined.
- **Relative density:** Not determined.
- **Vapor density:** Not determined.
- **Evaporation rate:** Not determined.
- **Solubility in / Miscibility with Water:** Not miscible or difficult to mix.
- **Partition coefficient (n-octanol/water):** Not determined.
- **Viscosity:**
 - **Dynamic:** Not determined.
 - **Kinematic at 40 °C (104 °F):** 5 mm²/s
- **Solvent content:**
 - **VOC content:** 0.00 %
0.0 g/l / 0.00 lb/gal
- **Solids content:** 4.5 %

(Contd. on page 6)

Safety Data Sheet

acc. to OSHA HCS

Printing date 05/16/2024

Reviewed on 05/16/2024

Trade name: Sulfur Standard
10 ppm w/w in Diesel

(Contd. of page 5)

· **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:**

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

ATE (Acute Toxicity Estimate)

Oral	LD50	16,333 mg/kg (rat)
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- **Primary irritant effect:**
- **on the skin:** *No irritant effect.*
- **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:

- **Carcinogenic categories**

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

CAS: 68334-30-5	Fuels, diesel	2B
CAS: 91-20-3	Naphthalene	2B

- **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*

(Contd. on page 7)

Safety Data Sheet

acc. to OSHA HCS

Printing date 05/16/2024

Reviewed on 05/16/2024

Trade name: Sulfur Standard
10 ppm w/w in Diesel



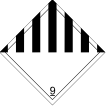
(Contd. of page 6)

- 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="margin-left: 20px;">NA1993
UN1993</p> |
| <ul style="list-style-type: none"> · UN proper shipping name · DOT · IMDG · IATA | <p style="margin-left: 20px;">COMBUSTIBLE LIQUID, N.O.S (Fuels, diesel)
FLAMMABLE LIQUID, N.O.S. (Fuels, diesel, Naphthalene, Biphenyl), MARINE POLLUTANT
FLAMMABLE LIQUID, N.O.S. (Fuels, diesel)</p> |
| <ul style="list-style-type: none"> · Transport hazard class(es) · DOT | <div style="text-align: center;">  <p>COMBUSTIBLE
3</p> </div> <p style="margin-left: 20px;">3 Combustible liquids</p> |
| <ul style="list-style-type: none"> · Class · Label | <p style="margin-left: 20px;">3</p> |
| <ul style="list-style-type: none"> · IMDG | <div style="text-align: center;">  <p>9</p> </div> <p style="margin-left: 20px;">9 Miscellaneous dangerous substances and articles</p> |
| <ul style="list-style-type: none"> · Class · Label | <p style="margin-left: 20px;">9</p> |
| <ul style="list-style-type: none"> · IATA | <div style="text-align: center;">  <p>9</p> </div> <p style="margin-left: 20px;">9 Miscellaneous dangerous substances and articles</p> |
| <ul style="list-style-type: none"> · Class | <p style="margin-left: 20px;">9 Miscellaneous dangerous substances and articles</p> |

(Contd. on page 8)

Safety Data Sheet

acc. to OSHA HCS

Printing date 05/16/2024

Reviewed on 05/16/2024

Trade name: Sulfur Standard
10 ppm w/w in Diesel

(Contd. of page 7)

· Label	9
· Packing group	
· DOT, IMDG, IATA	III
· Environmental hazards:	Product contains environmentally hazardous substances: Naphthalene
· Marine pollutant:	Symbol (fish and tree)
· Special precautions for user	Warning: Miscellaneous dangerous substances and articles
· Hazard identification number (Kemler code):	90
· EMS Number:	F-E, <u>S-E</u>
· Stowage Category	A
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	
· IMDG	
· Limited quantities (LQ)	5L
· Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· UN "Model Regulation":	UN 1993 FLAMMABLE LIQUID, N.O.S. (FUELS, DIESEL), 9, III

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: 91-20-3	Naphthalene	
CAS: 92-52-4	Biphenyl	
· TSCA (Toxic Substances Control Act):		
Fuels, diesel		ACTIVE
Naphthalene		ACTIVE
Biphenyl		ACTIVE
Butyl sulfide		ACTIVE
· Hazardous Air Pollutants		
CAS: 91-20-3	Naphthalene	
CAS: 92-52-4	Biphenyl	
· 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.		

(Contd. on page 9)

Safety Data Sheet

acc. to OSHA HCS

Printing date 05/16/2024

Reviewed on 05/16/2024

Trade name: Sulfur Standard
10 ppm w/w in Diesel

(Contd. of page 8)

· **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: 91-20-3 Naphthalene

C, CBD

CAS: 92-52-4 Biphenyl

SC

· **TLV (Threshold Limit Value)**

CAS: 68334-30-5 Fuels, diesel

A3

CAS: 91-20-3 Naphthalene

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).

· **Hazard pictograms**



GHS08

· **Signal word** Danger

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

Fuels, diesel

Biphenyl

Naphthalene

· **Hazard statements**

Combustible liquid.

May cause genetic defects.

Suspected of causing cancer.

· **Precautionary statements**

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Keep away from flames and hot surfaces. – No smoking.

Wear protective gloves/protective clothing/eye protection/face protection.

IF exposed or concerned: Get medical advice/attention.

In case of fire: Use CO₂, powder or water spray to extinguish.

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:**

(Contd. on page 10)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 05/16/2024

Reviewed on 05/16/2024

Trade name: Sulfur Standard
10 ppm w/w in Diesel

(Contd. of page 9)

Date of Preparation / Last Revision:

· **Date of preparation / last revision**

Revision 1.2, 05/16/2024: Reviewed SDS for accuracy. MH/STN

Revision 0.0, 10-31-2016: Creation date for SDS. STN

05/16/2024

· **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)

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

BEI: Biological Exposure Limit

Flammable Liquids 4: Flammable liquids – Category 4

Germ Cell Mutagenicity 1A: Germ cell mutagenicity – Category 1A

Carcinogenicity 2: Carcinogenicity – Category 2

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

US