

Safety Data Sheet

acc. to OSHA HCS

Printing date 10/14/2022

Reviewed on 10/14/2022

1 Identification

- **Product identifier**
- **Trade name:** BHT Standard
5.0 ppm w/w in n-Pentane
- **Article number:** SAY022
- **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

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:**
Pentane
- **Hazard statements**
Highly flammable liquid and vapor.
May cause drowsiness or dizziness.

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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

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.

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.

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 = 0

Fire = 4

Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**



Health = 1

Fire = 4

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: 109-66-0	Pentane	100.0%
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· **Table of Nonhazardous Ingredients**

CAS: 128-37-0	Butylated hydroxytoluene	0.001%
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4 First-aid measures

· **Description of first aid measures**

· **General information:** Immediately remove any clothing soiled by the product.

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- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:** Immediately rinse with water.
- **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: 109-66-0	Pentane	3000* ppm
· PAC-2:		
CAS: 109-66-0	Pentane	33000*** ppm
· PAC-3:		
CAS: 109-66-0	Pentane	200000*** ppm

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.

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- **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: 109-66-0 Pentane

PEL	Long-term value: 2950 mg/m ³ , 1000 ppm
REL	Long-term value: 350 mg/m ³ , 120 ppm Ceiling limit value: 1800* mg/m ³ , 610* ppm *15-min
TLV	Long-term value: 1000 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.

- **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.

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· **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:	Aromatic
Odor threshold:	Not determined.

· **pH-value:** Not determined.· **Change in condition**

Melting point/Melting range:	-129.7 °C (-201.5 °F)
Boiling point/Boiling range:	36.1 °C (97 °F)

· **Flash point:** -35 °C (-31 °F)· **Flammability (solid, gaseous):** Highly flammable.· **Ignition temperature:** 285 °C (545 °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:	1.4 Vol %
Upper:	7.8 Vol %

· **Vapor pressure at 20 °C (68 °F):** 573 hPa (429.8 mm Hg)· **Density at 20 °C (68 °F):** 0.62666 g/cm³ (5.22948 lbs/gal)· **Relative density** Not determined.· **Vapor density** Not determined.· **Evaporation rate** Not determined.· **Solubility in / Miscibility with**

Water at 20 °C (68 °F):	0.01 g/l
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· **Partition coefficient (n-octanol/water):** Not determined.· **Viscosity:**

Dynamic:	Not determined.
Kinematic:	Not determined.

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· Solvent content:	
Organic solvents:	100.0 %
VOC content:	100.00 %
	626.7 g/l / 5.23 lb/gal

Solids content:	0.1 %
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· Other information	No further relevant information available.
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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:** 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: 128-37-0	Butylated hydroxytoluene
	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

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- 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;">UNI265</p> |
| <ul style="list-style-type: none"> · UN proper shipping name · DOT · IMDG · IATA | <p style="margin-left: 20px;">Pentanes
PENTANES, MARINE POLLUTANT
PENTANES</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="margin-left: 20px;">3 Flammable liquids
3</p> |
| <ul style="list-style-type: none"> · IMDG | <div style="text-align: center;">  </div> |
| <ul style="list-style-type: none"> · Class · Label | <p style="margin-left: 20px;">3 Flammable liquids
3</p> |
| <ul style="list-style-type: none"> · IATA | <div style="text-align: center;">  </div> |
| <ul style="list-style-type: none"> · Class · Label | <p style="margin-left: 20px;">3 Flammable liquids
3</p> |

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· Packing group · DOT, IMDG, IATA	I
· Environmental hazards: · Marine pollutant:	Product contains environmentally hazardous substances: Pentane Symbol (fish and tree)
· Special precautions for user · Hazard identification number (Kemler code): 33 · EMS Number: · Stowage Category	Warning: Flammable liquids F-E,S-D 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) · Excepted quantities (EQ)	5L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· UN "Model Regulation":	UN 1265 PENTANES, 3, I

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.
· TSCA (Toxic Substances Control Act):	
Pentane	ACTIVE
Butylated hydroxytoluene	ACTIVE
· Hazardous Air Pollutants	None of the ingredients is listed.
· 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.

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· **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

· **TLV (Threshold Limit Value)**

CAS: 128-37-0 Butylated hydroxytoluene

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**



GHS02 GHS07 GHS08

· **Signal word** *Danger*

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

Pentane

· **Hazard statements**

Highly flammable liquid and vapor.

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

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.

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.

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.

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

· **Contact:**

· **Date of preparation / last revision**

Revision 0.0, 10-14-2022 Creation date for SDS. STN
10/14/2022

· **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

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