

Safety Data Sheet

according to HPR, Schedule 1

Printing date 10/06/2021

Reviewed on 10/06/2021

1 Identification

- **Product identifier**
- **Trade name:** Lugol's Iodine
Kit Solution
- **Article number:** R310669
- **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 identification

- **Classification of the substance or mixture**



GHS02 Flame

Flammable Liquids - Category 2

H225 Highly flammable liquid and vapour.



GHS08 Health hazard

Carcinogenicity - Category 1A

H350 May cause cancer.

Specific Target Organ Toxicity - Repeated Exposure -
Category 1H372 Causes damage to organs through prolonged or
repeated exposure.

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



GHS02



GHS08

- **Signal word** Danger
- **Hazard-determining components of labeling:**
Ethyl Alcohol, Absolute 200 Proof
Iodine *DEA regulated item
- **Hazard statements**
Highly flammable liquid and vapour.
May cause cancer.

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Causes damage to organs through prolonged or repeated exposure.

· **Precautionary statements**

If medical advice is needed, have product container or label at hand.

Keep out of reach of children.

Read label before use.

Obtain special instructions before use.

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

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Keep container tightly closed.

Ground and bond container and receiving equipment.

Use explosion-proof [electrical/ventilating/lighting] equipment.

Use non-sparking tools.

Take actions to prevent static discharges.

Do not breathe dust/fume/gas/mist/vapours/spray.

Wash thoroughly after handling.

Do not eat, drink or smoke when using this product.

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

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].

IF exposed or concerned: Get medical advice/attention.

Get medical advice/attention if you feel unwell.

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)**



Health = 0

Fire = 3

Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**



Health = *1

Fire = 3

Reactivity = 0

3 Composition/Information on ingredients

· **Chemical characterization: Mixtures**

· **Description:** Mixture of the substances listed below with nonhazardous additions.

· **Dangerous components:**

CAS: 64-17-5	Ethyl Alcohol, Absolute 200 Proof	30.0% w/w
CAS: 7681-11-0	Potassium Iodide	3.333% w/w
CAS: 67-56-1	Methanol (Methyl Alcohol)	1.667% w/w
CAS: 67-63-0	Isopropanol	1.667% w/w
CAS: 7553-56-2	Iodine *DEA regulated item	1.667% w/w

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· Table of Nonhazardous Ingredients

CAS: 7732-18-5 | Water

61.666% w/w

4 First-aid measures

- **Description of first aid measures**
- **General information:**
Immediately remove any clothing soiled by the product.
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- **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**
During heating or in case of fire poisonous gases are produced.
- **Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Mount respiratory protective device.
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.

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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**

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

CAS: 64-17-5 Ethyl Alcohol, Absolute 200 Proof

EL STEL: 1000 ppm

EV TWA: 1,900 mg/m³, 1,000 ppm

CAS: 67-56-1 Methanol (Methyl Alcohol)

EL STEL: 250 ppm

TWA: 200 ppm

Skin

EV STEL: 325 mg/m³, 250 ppm

TWA: 260 mg/m³, 200 ppm

Skin

CAS: 67-63-0 Isopropanol

EL STEL: 400 ppm

TWA: 200 ppm

EV STEL: 400 ppm

TWA: 200 ppm

CAS: 7553-56-2 Iodine *DEA regulated item

EL Ceiling: 0.1 ppm

EV Ceiling: 1 mg/m³, 0.1 ppm

- **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.
- **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:	Brown
Odor:	Alcohol-like
Odor threshold:	Not determined.

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

- **Change in condition**

Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	100 °C

- **Flash point:** 13 °C

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· Flammability (solid, gaseous):	Not applicable.
· Ignition temperature:	425 °C
· 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:	3.5 Vol %
Upper:	19 Vol %
· Vapor pressure at 20 °C:	59 hPa
· Density at 20 °C:	1.06629 g/cm ³
· 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:	Not determined.
· Solvent content:	
Organic solvents:	33.3 %
Water:	61.7 %
Solids content:	5.0 %
· 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.

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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)

Oral	LD50	4,999 mg/kg
Dermal	LD50	14,140 mg/kg
Inhalative	LC50/4h	60 mg/l

CAS: 67-56-1 Methanol (Methyl Alcohol)

Oral	LD50	100 mg/kg (ATE)
Dermal	LD50	300 mg/kg (ATE)
Inhalative	LC50/4h	3 mg/l (ATE)

- **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: 64-17-5	Ethyl Alcohol, Absolute 200 Proof	1
CAS: 67-63-0	Isopropanol	3

· **NTP (National Toxicology Program)**

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 1 (Self-assessment): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- **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

- | | |
|--|--|
| <ul style="list-style-type: none"> · UN-Number · DOT/TDG, ADR, IMDG, IATA | <p>UN1993</p> |
| <ul style="list-style-type: none"> · UN proper shipping name · DOT/TDG · ADR · IMDG, IATA | <p>Flammable liquids, n.o.s. (Ethanol, Methanol, Isopropanol)
1993 FLAMMABLE LIQUID, N.O.S. (ETHANOL, METHANOL, Isopropanol)
FLAMMABLE LIQUID, N.O.S. (ETHANOL, METHANOL, Isopropanol)</p> |
| <ul style="list-style-type: none"> · Transport hazard class(es) · DOT/TDG (Transport dangerous goods): | <div style="text-align: center;">  <p>3</p> </div> |
| <ul style="list-style-type: none"> · Class · Label | <p>3 Flammable liquids
3</p> |
| <ul style="list-style-type: none"> · ADR, IMDG, IATA | |
| <ul style="list-style-type: none"> · Class · Label | <div style="text-align: center;">  <p>3</p> </div> <p>3 Flammable liquids
3</p> |
| <ul style="list-style-type: none"> · Packing group · DOT/TDG, ADR, IMDG, IATA | <p>II</p> |
| <ul style="list-style-type: none"> · Environmental hazards: · Marine pollutant: | <p>No</p> |
| <ul style="list-style-type: none"> · Special precautions for user · Hazard identification number (Kemler code): · EMS Number: · Stowage Category | <p>Warning: Flammable liquids
33
F-E, S-E
B</p> |
| <ul style="list-style-type: none"> · Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code | <p>Not applicable.</p> |

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· Transport/Additional information:

· DOT/TDG

· Quantity limitations

On passenger aircraft/rail: 5 L

On cargo aircraft only: 60 L

· ADR

· Excepted quantities (EQ)

Code: E2

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

· 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. (ETHANOL, METHANOL, ISOPROPANOL), 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: 67-56-1 | Methanol (Methyl Alcohol)

CAS: 67-63-0 | Isopropanol

· TSCA (Toxic Substances Control Act):

Water

ACTIVE

Ethyl Alcohol, Absolute 200 Proof

ACTIVE

Potassium Iodide

ACTIVE

Methanol (Methyl Alcohol)

ACTIVE

Isopropanol

ACTIVE

Iodine *DEA regulated item

ACTIVE

· Canadian substance listings:

· Canadian Domestic Substances List (DSL)

CAS: 64-17-5 | Ethyl Alcohol, Absolute 200 Proof

CAS: 7681-11-0 | Potassium Iodide

CAS: 67-56-1 | Methanol (Methyl Alcohol)

CAS: 67-63-0 | Isopropanol

CAS: 7553-56-2 | Iodine *DEA regulated item

· Canadian Non-Domestic Substances List (NDSL)

None of the ingredients is listed.

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· Canadian Ingredient Disclosure list (limit 0.1%)	
CAS: 64-17-5	Ethyl Alcohol, Absolute 200 Proof
· Canadian Ingredient Disclosure list (limit 1%)	
CAS: 7681-11-0	Potassium Iodide
CAS: 67-56-1	Methanol (Methyl Alcohol)
CAS: 67-63-0	Isopropanol
CAS: 7553-56-2	Iodine *DEA regulated item

· **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**



GHS02 GHS08

· **Signal word** *Danger*

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

Ethyl Alcohol, Absolute 200 Proof

Iodine *DEA regulated item

· **Hazard statements**

Highly flammable liquid and vapour.

May cause cancer.

Causes damage to organs through prolonged or repeated exposure.

· **Precautionary statements**

If medical advice is needed, have product container or label at hand.

Keep out of reach of children.

Read label before use.

Obtain special instructions before use.

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

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Keep container tightly closed.

Ground and bond container and receiving equipment.

Use explosion-proof [electrical/ventilating/lighting] equipment.

Use non-sparking tools.

Take actions to prevent static discharges.

Do not breathe dust/fume/gas/mist/vapours/spray.

Wash thoroughly after handling.

Do not eat, drink or smoke when using this product.

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

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].

IF exposed or concerned: Get medical advice/attention.

Get medical advice/attention if you feel unwell.

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.

· **National regulations:**

· **Information about limitation of use:**

Workers are not allowed to be exposed to the hazardous carcinogenic materials contained in this preparation.

Exceptions can be made by the authorities in certain cases.

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· **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 the latest revision of the safety data sheet** 10/06/2021 / -
- **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)
 - LC50: Lethal concentration, 50 percent
 - LD50: Lethal dose, 50 percent
 - PBT: Persistent, Bioaccumulative and Toxic
 - vPvB: very Persistent and very Bioaccumulative

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