

# Safety Data Sheet

acc. to OSHA HCS

Printing date 06/28/2021

Reviewed on 06/28/2021

## 1 Identification

- **Product identifier**
- **Trade name:** LUGOL'S IODINE (SPECIAL)
- **Article number:** CHA036
- **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

Flam. Liq. 2 H225 Highly flammable liquid and vapor.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2A H319 Causes serious eye irritation.

- **Label elements**

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

- **Hazard pictograms**



GHS02 GHS07

- **Signal word** Danger

- **Hazard statements**

Highly flammable liquid and vapor.

Causes skin irritation.

Causes serious eye irritation.

- **Precautionary statements**

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Keep container tightly closed.

Ground/bond container and receiving equipment.

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

Use only non-sparking tools.

Take precautionary measures against static discharge.

(Contd. on page 2)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 06/28/2021

Reviewed on 06/28/2021

**Trade name: LUGOL'S IODINE (SPECIAL)**

(Contd. of page 1)

Wash thoroughly after handling.

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

Specific treatment (see on this label).

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Take off contaminated clothing and wash it before reuse.

If skin irritation occurs: Get medical advice/attention.

If eye irritation persists: Get medical advice/attention.

In case of fire: Use for extinction: CO<sub>2</sub>, powder or water spray.

Store in a well-ventilated place. Keep cool.

Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



Health = 2

Fire = 4

Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**



Health = 2

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: 75-05-8	Acetonitrile, Reagent ACS Grade	24.611%
CAS: 64-19-7	Acetic Acid	11.648%

· **Table of Nonhazardous Ingredients**

CAS: 7732-18-5	Water	62.12%
CAS: 7553-56-2	Iodine *DEA regulated item	0.98%
CAS: 7681-11-0	Potassium Iodide	0.641%

### 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. If symptoms persist, consult a doctor.

· **After swallowing:** If symptoms persist consult doctor.

(Contd. on page 3)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 06/28/2021

Reviewed on 06/28/2021

**Trade name: LUGOL'S IODINE (SPECIAL)**

(Contd. of page 2)

- **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.
- **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:**  
Dilute with plenty of water.  
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: 75-05-8	Acetonitrile, Reagent ACS Grade	13 ppm
CAS: 64-19-7	Acetic Acid	5 ppm
CAS: 7553-56-2	Iodine *DEA regulated item	0.1 ppm
CAS: 7681-11-0	Potassium Iodide	1.3 mg/m <sup>3</sup>

· **PAC-2:**

CAS: 75-05-8	Acetonitrile, Reagent ACS Grade	50 ppm
CAS: 64-19-7	Acetic Acid	35 ppm
CAS: 7553-56-2	Iodine *DEA regulated item	0.5 ppm
CAS: 7681-11-0	Potassium Iodide	15 mg/m <sup>3</sup>

· **PAC-3:**

CAS: 75-05-8	Acetonitrile, Reagent ACS Grade	150 ppm
CAS: 64-19-7	Acetic Acid	250 ppm
CAS: 7553-56-2	Iodine *DEA regulated item	5 ppm
CAS: 7681-11-0	Potassium Iodide	87 mg/m <sup>3</sup>

US

(Contd. on page 4)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 06/28/2021

Reviewed on 06/28/2021

Trade name: LUGOL'S IODINE (SPECIAL)

(Contd. of page 3)

## 7 Handling and storage

- **Handling:**
- **Precautions for safe handling** No special precautions are necessary if used correctly.
- **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: 75-05-8 Acetonitrile, Reagent ACS Grade

PEL	Long-term value: 70 mg/m <sup>3</sup> , 40 ppm
REL	Long-term value: 34 mg/m <sup>3</sup> , 20 ppm
TLV	Long-term value: 34 mg/m <sup>3</sup> , 20 ppm
	Skin

### CAS: 64-19-7 Acetic Acid

PEL	Long-term value: 25 mg/m <sup>3</sup> , 10 ppm
REL	Short-term value: 37 mg/m <sup>3</sup> , 15 ppm Long-term value: 25 mg/m <sup>3</sup> , 10 ppm
TLV	Short-term value: 37 mg/m <sup>3</sup> , 15 ppm Long-term value: 25 mg/m <sup>3</sup> , 10 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 eyes and skin.
- **Breathing equipment:** Use suitable respiratory protective device in case of insufficient ventilation.
- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

(Contd. on page 5)

US

# Safety Data Sheet

acc. to OSHA HCS

Printing date 06/28/2021

Reviewed on 06/28/2021

**Trade name: LUGOL'S IODINE (SPECIAL)**

(Contd. of page 4)

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:**

<b>Form:</b>	Liquid
<b>Color:</b>	Brown
<b>Odor:</b>	Organic
<b>Odor threshold:</b>	Not determined.

· **pH-value:** Not determined.

· **Change in condition**

<b>Melting point/Melting range:</b>	Undetermined.
<b>Boiling point/Boiling range:</b>	36 °C (96.8 °F)

· **Flash point:** 5 °C (41 °F)

· **Flammability (solid, gaseous):** Not applicable.

· **Ignition temperature:** 485 °C (905 °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:**

<b>Lower:</b>	4 Vol %
<b>Upper:</b>	17 Vol %

· **Vapor pressure at 20 °C (68 °F):** 97 hPa (72.8 mm Hg)

· **Density at 20 °C (68 °F):** 1.00475 g/cm<sup>3</sup> (8.38464 lbs/gal)

· **Relative density** Not determined.

· **Vapor density** Not determined.

· **Evaporation rate** Not determined.

(Contd. on page 6)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 06/28/2021

Reviewed on 06/28/2021

Trade name: LUGOL'S IODINE (SPECIAL)

(Contd. of page 5)

- |   |  |
|---|--|
| <b>· Solubility in / Miscibility with Water:</b>  | Fully miscible.                            |
| <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>                          | 11.6 %                                     |
| <b>Water:</b>                                     | 62.1 %                                     |
| <b>VOC content:</b>                               | 11.65 %                                    |
|   | 117.0 g/l / 0.98 lb/gal                    |
| <b>· Solids content:</b>                          | 1.6 %                                      |
| <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.

## 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

### · LD/LC50 values that are relevant for classification:

#### ATE (Acute Toxicity Estimate)

Oral	LD50	11,092 mg/kg (rat)
Dermal	LD50	3,260 mg/kg (rabbit)
Inhalative	LC50/4h	44.7 mg/l

#### CAS: 75-05-8 Acetonitrile, Reagent ACS Grade

Oral	LD50	500 mg/kg (ATE)
Dermal	LD50	1,100 mg/kg (ATE)
Inhalative	LC50/4h	11 mg/l (ATE)

- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** 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

(Contd. on page 7)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 06/28/2021

Reviewed on 06/28/2021

**Trade name: LUGOL'S IODINE (SPECIAL)**

(Contd. of page 6)

· **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.

## 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.

· **Recommended cleansing agent:** Water, if necessary with cleansing agents.

## 14 Transport information

· **UN-Number**

· **DOT, IMDG, IATA**

UN2924

· **UN proper shipping name**

· **DOT**

Flammable liquids, corrosive, n.o.s. (Acetonitrile, Acetic acid, glacial)

· **IMDG, IATA**

FLAMMABLE LIQUID, CORROSIVE, N.O.S. (ACETONITRILE, ACETIC ACID, GLACIAL)

(Contd. on page 8)

US

# Safety Data Sheet

acc. to OSHA HCS

Printing date 06/28/2021

Reviewed on 06/28/2021

Trade name: LUGOL'S IODINE (SPECIAL)

(Contd. of page 7)

· **Transport hazard class(es)**· **DOT**

· **Class** 3/8  
 · **Label** 3, 8

· **IMDG**

· **Class** 3/8  
 · **Label** 3/8

· **IATA**

· **Class** 3/8  
 · **Label** 3 (8)

· **Packing group**  
 · **DOT, IMDG, IATA** II

· **Environmental hazards:** Not applicable.

· **Special precautions for user** Not applicable.

· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.

· **UN "Model Regulation":** UN 2924 FLAMMABLE LIQUID, CORROSIVE, N.O.S. (ACETONITRILE, ACETIC ACID, GLACIAL), 3 (8), 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):**

CAS: 75-05-8 | Acetonitrile, Reagent ACS Grade

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

Water

ACTIVE

Acetonitrile, Reagent ACS Grade

ACTIVE

Acetic Acid

ACTIVE

(Contd. on page 9)



# Safety Data Sheet

acc. to OSHA HCS

Printing date 06/28/2021

Reviewed on 06/28/2021

**Trade name: LUGOL'S IODINE (SPECIAL)**

(Contd. of page 8)

Iodine *DEA regulated item	ACTIVE
Potassium Iodide	ACTIVE

**· Hazardous Air Pollutants**

CAS: 75-05-8 | Acetonitrile, Reagent ACS Grade

**· 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: 75-05-8 | Acetonitrile, Reagent ACS Grade

CBD, D

**· TLV (Threshold Limit Value)**

CAS: 75-05-8 | Acetonitrile, Reagent ACS Grade

A4

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

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

**· Signal word** *Danger*
**· Hazard statements**
*Highly flammable liquid and vapor.**Causes skin irritation.**Causes serious eye irritation.*
**· Precautionary statements**
*Keep away from heat/sparks/open flames/hot surfaces. - No smoking.**Keep container tightly closed.**Ground/bond container and receiving equipment.**Use explosion-proof electrical/ventilating/lighting/equipment.**Use only non-sparking tools.**Take precautionary measures against static discharge.**Wash thoroughly after handling.**Wear protective gloves/protective clothing/eye protection/face protection.**Specific treatment (see on this label).**If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.**If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.**Continue rinsing.**Take off contaminated clothing and wash it before reuse.*

(Contd. on page 10)

# Safety Data Sheet

## acc. to OSHA HCS

Printing date 06/28/2021

Reviewed on 06/28/2021

**Trade name: LUGOL'S IODINE (SPECIAL)**

(Contd. of page 9)

*If skin irritation occurs: Get medical advice/attention.*

*If eye irritation persists: Get medical advice/attention.*

*In case of fire: Use for extinction: CO<sub>2</sub>, powder or water spray.*

*Store in a well-ventilated place. Keep cool.*

*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 06-28-2021: revised formulation per customer. STN

06/28/2021 / -

· **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)

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

Flam. Liq. 2: Flammable liquids – Category 2

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A