

## Safety Data Sheet (SDS)

OSHA HazCom Standard 29 CFR 1910.1200(g) and GHS Rev 03.

Reviewed on 09/25/18



Issue date 06/11/15

### \* 1 Identification

- **Product identifier**
- **Trade name: Lugol's Solution**
- **Relevant identified uses of the substance or mixture and uses advised against**  
No further relevant information available.
- **Product description** Potassium Iodide USP 10%, Iodine USP 5%, in purified water
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Dermatologic Lab & Supply, Inc.  
608 13th Ave.  
Council Bluffs, IA USA 51501-6401  
Voice: (800) 831-6273 or (712) 323-3269  
Fax: (800) 320-9612 or (712) 323-1156  
www.delasco.com
- **Emergency telephone number:** Chemtrec 800-424-9300

### \* 2 Hazard(s) identification

- **Classification of the substance or mixture**



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**



GHS07

- **Signal word** Warning
- **Hazard statements**  
Causes skin irritation.  
Causes serious eye irritation.
- **Precautionary statements**

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Wear protective gloves.

Wear eye protection / face protection.

Wash thoroughly after handling.

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

Specific treatment (see supplementary first aid instructions on this Safety Data Sheet).

If skin irritation occurs: Get medical advice/attention.

If eye irritation persists: Get medical advice/attention.

If on skin: Wash with plenty of water.

Take off contaminated clothing and wash it before reuse.

· **Classification system:** NFPA/HMIS Definitions: 0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme

· **NFPA ratings (scale 0 - 4)**



Health = 1  
Fire = 0  
Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**



HEALTH 1  
FIRE 0  
REACTIVITY 0  
Health = 1  
Fire = 0  
Reactivity = 0

· **Hazard(s) not otherwise classified (HNOC):** None known

### \* 3 Composition/information on ingredients

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

· **Dangerous Components:**

CAS: 7681-11-0	Potassium Iodide	5-10%
RTECS: TT 2975000	⚠ Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Irrit. 2A, H319	
CAS: 7553-56-2	Iodine	2-12%
RTECS: NN 1575000	⚠ Aquatic Acute 1, H400; ⚠ Acute Tox. 4, H312; Acute Tox. 4, H332	

### \* 4 First-aid measures

· **Description of first aid measures**

· **After inhalation:**

Supply fresh air. If required, provide artificial respiration. Consult doctor if symptoms persist.

In case of unconsciousness, place patient securely on side position for transportation.

· **After skin contact:**

Immediately wash with water and soap and rinse thoroughly. If skin irritation occurs, consult a doctor.

· **After eye contact:** Rinse opened eye for at least 15 minutes under running water. If symptoms persist, consult a doctor.

· **After swallowing:**

Do not induce vomiting without medical advice. Consume large amounts of water. If symptoms persist, consult a physician.

· **Information for doctor:**

· **Most important symptoms and effects, both acute and delayed:** No further relevant information available.

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- **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** Use water spray to cool unopened containers.
- **Protective equipment:**  
As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.

### \* 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
Ensure adequate ventilation  
Avoid contact with skin, eyes and clothing.  
Keep people at a distance and stay upwind.  
Do not inhale gases / fumes / aerosols
- **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 (i.e. sand, diatomite, acid binders, universal binders, sawdust).  
Dispose contaminated material as waste according to section 13.  
Ensure adequate ventilation. Dispose of the collected material according to regulations.
- **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.

### \* 7 Handling and storage

- **Handling:**
- **Precautions for safe handling**  
Keep away from heat and direct sunlight.  
Avoid contact with skin, eyes and clothing  
Ensure good ventilation/exhaustion at the workplace.  
Prevent formation of aerosols.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**  
Rubber, Plastics, Iron and Iron salts., Sulphur compounds, Ammonia, Magnesium, Zinc, Aluminum, Metals, Alkalis, Antimony salts, Arsenites, Halogens, Thiocyanates, Ferrous salts, Hypophosphites, morphine salts, oils, Creosote, Phosphates, Tannins, Tartrates, Antimony, Ammonia, Acetaldehyde, Acetylene, Acetaldehyde, strong oxidizing agents, strong acids, strong reducing agents, Nickel and its alloys, Steel (all types and surface treatments), Alkali metals, Brass, Alkaline Earth metals, Cadmium and Copper.
- **Storage:**

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- **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.
- **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

All ventilation should be designed in accordance with OSHA standard (29 CFR 1910.94). Use mechanical (general) ventilation for storage areas. Use appropriate ventilation as required to keep Exposure Limits in Air below TLV & PEL limits.

#### · Components with occupational exposure limits:

##### 7681-11-0 Potassium Iodide

TLV Long-term value: 0.01\* ppm  
\*as inhalable fraction and vapor

##### 7553-56-2 Iodine

PEL Ceiling limit value: 1 mg/m<sup>3</sup>, 0.1 ppm  
REL Ceiling limit value: 1 mg/m<sup>3</sup>, 0.1 ppm  
TLV Short-term value: 1 mg/m<sup>3</sup>, 0.1\*\* ppm Long-term value: 0.1\* mg/m<sup>3</sup>, 0.01\* ppm  
\*as inhalable fraction and vapor;\*\*vapor

- **Additional information:** The lists that were valid during the creation of this SDS were used as basis.

#### · Exposure controls

#### · Personal protective equipment:

#### · General protective and hygienic measures:

The usual precautionary measures for handling chemicals should be followed.

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing and wash before reuse.

Wash hands before breaks and at the end of work.

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. Select glove material based on penetration times, rates of diffusion and 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

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resistance of the glove material cannot 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 determined and observed by the manufacturer of the protective gloves.

- **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>	Dark
<b>Odor:</b>	Odorless
<b>Odor threshold:</b>	Not determined.
<b>pH-value:</b>	Not determined.

- **Change in condition**

<b>Melting point/Melting range:</b>	--
<b>Boiling point/Boiling range:</b>	100 °C (212 °F)

- **Flash point:** Not applicable.

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

- **Ignition temperature:**

**Decomposition temperature:** Not determined.

- **Auto igniting:** Product is not self-igniting.

- **Danger of explosion:** Product does not present an explosion hazard.

- **Explosion limits:**

<b>Lower:</b>	0.0 Vol %
<b>Upper:</b>	0.0 Vol %

- **Vapor pressure @ 20 °C (68 °F):** 23 hPa (17 mm Hg)

- **Density @ 20 °C (68 °F):** 1.41 g/cm<sup>3</sup> (11.766 lbs/gal)

- **Relative density** Not determined.

- **Vapor density** Not determined.

- **Evaporation rate** Not determined.

- **Solubility in / Miscibility with**

**Water:** Fully miscible.

- **Partition coefficient (n-octanol/water):** Not determined.

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- **Viscosity:**

- Dynamic:** Not determined.

- Kinematic:** Not determined.

- **Solvent content:**

- Organic solvents:** 0.0 %

- Water:** 85.0 %

- Solids content:** 15.0 %

- **Other information** No further relevant information available.

### \* 10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability** Stable under normal conditions.
- **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:**  
Rubber, Plastics, Iron and Iron salts., Sulphur compounds, Ammonia, Magnesium, Zinc, Aluminum, Metals, Alkalis, Antimony salts, Arsenites, Halogens, Thiocyanates, Ferrous salts, Hypophosphites, morphine salts, oils, Creosote, Phosphates, Tannins, Tartrates, Antimony, Ammonia, Acetaldehyde, Acetylene, Acetaldehyde, strong oxidizing agents, strong acids, strong reducing agents, Nickel and its alloys, Steel (all types and surface treatments), Alkali metals, Brass, Alkaline Earth metals, Cadmium and Copper.
- **Hazardous decomposition products:** Potassium Oxides and Iodine gas.

### \* 11 Toxicological information

- **Information on toxicological effects**

- Acute toxicity:**

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

<b>7681-11-0 Potassium Iodide</b>		
Oral	LD50	1000 mg/kg (mouse)
<b>7553-56-2 Iodine</b>		
Oral	LD50	14000 mg/kg (rat)

- **Primary irritant effect:**

- **on the skin:** Irritant to skin and mucous membranes.

- **on the eye:**

- Irritating effect. Causes serious eye irritation.

- **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)**

- Group 1 - Carcinogenic to humans

- Group 2A - Probably carcinogenic to humans

- Group 2B - Possibly carcinogenic to humans

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Group 3 - Not classifiable as to its carcinogenicity to humans

Group 4 - Probably not carcinogenic to humans

None of the ingredients are listed.

#### · **NTP (National Toxicology Program)**

None of the ingredients are listed.

#### · **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients are listed.

### \* 12 Ecological information

#### · **Toxicity**

##### · **Aquatic toxicity:**

**7681-11-0 Potassium Iodide**

EC50 2.7 mg/l (Water flea)

· **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:** Not known to be hazardous to water.

#### · **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:**

Observe all federal, state and local environmental regulations when disposing of this material.

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.

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### \* 14 Transport information

- **UN-Number**
- **DOT, ADR, ADN, IMDG, IATA** Non-Regulated Material
- **UN proper shipping name**
- **DOT, ADR, ADN, IMDG, IATA** Non-Regulated Material
- **Transport hazard class(es)**
- **DOT, ADR, ADN, IMDG, IATA**
- **Class** Non-Regulated Material
- **Packing group**
- **DOT, ADR, IMDG, IATA** Non-Regulated Material
- **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":-**

### \* 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 are listed.

- **Section 313 (Specific toxic chemical listings):**

None of the ingredients are listed.

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

All ingredients are listed.

- **California Proposition 65**

- **Chemicals known to cause cancer:**

None of the ingredients are listed.

- **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients are listed.

- **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients are listed.

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

None of the ingredients are listed.

- **Carcinogenic categories**

- **EPA (Environmental Protection Agency)**

None of the ingredients are listed.

- **TLV (Threshold Limit Value established by ACGIH)**

7553-56-2 Iodine

A4

- **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients are listed.



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



GHS07

- **Signal word** Warning
- **Hazard statements**  
Causes skin irritation.  
Causes serious eye irritation.

#### Precautionary statements

- Wear protective gloves.
- Wear eye protection / face protection.
- Wash thoroughly after handling.
- If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- Specific treatment (see supplementary first aid instructions on this Safety Data Sheet).
- If skin irritation occurs: Get medical advice/attention.
- If eye irritation persists: Get medical advice/attention.
- If on skin: Wash with plenty of water.
- Take off contaminated clothing and wash it before reuse.

· <b>National regulations:</b>		
The product is subject to be classified according with the latest version of the regulations on hazardous substances.		
· <b>State Right to Know</b>		
CAS: 7732-18-5	Water, distilled water, deionized water	□85%
CAS: 7681-11-0 RTECS: TT 2975000	Potassium Iodide ⚠ Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Irrit. 2A, H319	5-10%
CAS: 7553-56-2 RTECS: NN 1575000	Iodine ⚠ Aquatic Acute 1, H400; ⚠ Acute Tox. 4, H312; Acute Tox. 4, H332	2-12%
All ingredients are listed.		

- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

### 16 Other information

The information and recommendations in this safety data sheet are, to the best of our knowledge, accurate as of the date of issue. Nothing herein shall be deemed to create warranty, expressed or implied, and shall not establish a legally valid contractual relationship. It is the responsibility of the user to determine applicability of this information and the suitability of the material or product for any particular purpose.

- **Date of preparation / last revision**

06/11/15 - 09/25/18 /

- **Abbreviations and acronyms:**

ADR: The European Agreement concerning the International Carriage of Dangerous Goods by Road  
 ADN: The European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways  
 IMDG: International Maritime Code for Dangerous Goods  
 DOT: US Department of Transportation

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IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

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

Acute Tox. 4: Acute toxicity, Hazard Category 4

Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2

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

Aquatic Acute 1: Hazardous to the aquatic environment - AcuteHazard, Category 1

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

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