

SECTION 1: Identification

1.1. Product identifier

Product form : Mixture
Product name : Acid Lugol's Solution

1.2. Recommended use and restrictions on use

Recommended use : Laboratory use. Preservation of algae samples

1.3. Supplier

Manufacturer

Biologica Environmental Services, Ltd.
488-F Bay Street
Victoria, BC V8T5H2 - Canada
T 250-479-3868

1.4. Emergency telephone number

Emergency number : 250-479-3868
Monday-Friday, 8:30 am – 4:00 pm, English only

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

Classification (GHS CA)

Skin Irrit. 2	H315	Causes skin irritation.
Eye Irrit. 2A	H319	Causes serious eye irritation.
STOT RE 1	H372	Causes damage to organs (Thyroid) through prolonged or repeated exposure.

2.2. GHS Label elements, including precautionary statements

GHS-CA labelling

Hazard pictograms (GHS-CA) :



Signal word (GHS CA) : Danger

Hazard statements (GHS-CA) : H315 - Causes skin irritation.
H319 - Causes serious eye irritation.
H372 - Causes damage to organs (Thyroid) through prolonged or repeated exposure.

Precautionary statements (GHS-CA) : P260 - Do not breathe dust/fume/gas/mist/vapours/spray.
P264 - Wash hands, forearms and face thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352 - IF ON SKIN: Wash with plenty of water.
P362+P364 - Take off contaminated clothing and wash it before reuse.
P332+P313 - If skin irritation occurs: Get medical advice/attention.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313 - If eye irritation persists: Get medical advice/attention.

Acid Lugol's Solution

Safety Data Sheet

according to the Hazardous Products Regulation (February 11, 2015)

P314 - Get medical advice/attention if you feel unwell.
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS CA)

Not applicable

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Chemical name / Synonyms	Product identifier	%
Potassium iodide (KI)	Potassium iodide, 99%	CAS-No.: 7681-11-0	5 – 10
Acetic Acid, Glacial	Acetic Acid, Glacial, 99.7%	CAS-No.: 64-19-7	5 – 10
Iodine	Iodine, 99.8%	CAS-No.: 7553-56-2	1 – 5

Comments : *Chemical name, CAS number and/or exact concentration have been withheld as a trade secret

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention if you feel unwell.

First-aid measures after skin contact : IF ON SKIN: Wash with plenty of water. Take off contaminated clothing and wash it before reuse. If skin irritation occurs: Get medical advice/attention.

First-aid measures after eye contact : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

First-aid measures after ingestion : Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Get medical advice/attention if you feel unwell.

4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects after inhalation : May cause irritation to the respiratory tract.

Symptoms/effects after skin contact : Causes skin irritation. Symptoms may include redness, drying, defatting and cracking of the skin.

Symptoms/effects after eye contact : Causes serious eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva.

Symptoms/effects after ingestion : May be harmful if swallowed. May cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Chronic symptoms : Causes damage to organs (Thyroid) through prolonged or repeated exposure.

4.3. Immediate medical attention and special treatment, if necessary

Other medical advice or treatment : Symptoms may be delayed. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

Acid Lugol's Solution

Safety Data Sheet

according to the Hazardous Products Regulation (February 11, 2015)

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media

Suitable extinguishing media : On small fires use carbon dioxide (CO₂), dry chemical or water spray. For large fires: water spray, alcohol-resistant foam

5.2. Unsuitable extinguishing media

Unsuitable extinguishing media : Do not use water jet.

5.3. Specific hazards arising from the hazardous product

Fire hazard : Products of combustion may include, and are not limited to: oxides of carbon. Irritating vapours.

5.4. Special protective equipment and precautions for fire-fighters

Protection during firefighting : Keep upwind of fire. Wear full fire fighting turn-out gear (full Bunker gear) and respiratory protection (SCBA).

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Use personal protection recommended in Section 8. Isolate the hazard area and deny entry to unnecessary and unprotected personnel.

6.2. Methods and materials for containment and cleaning up

For containment : Absorb and/or contain spill with inert material (sand, vermiculite or other appropriate material), then place in suitable container. Do not flush into surface water or sewer system. Wear recommended personal protective equipment.

Methods for cleaning up : Sweep or shovel spills into appropriate container for disposal. Provide ventilation.

6.3. Reference to other sections

For further information refer to section 8: "Exposure controls/personal protection"

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Avoid contact with skin and eyes. Do not breathe dust, fume, gas, mist, spray, vapours. Do not swallow. Handle and open container with care. When using do not eat, drink or smoke. Ensure adequate ventilation.

Hygiene measures : Wash contaminated clothing before reuse. Wash hands, forearms and face thoroughly after handling.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep out of the reach of children. Keep container tightly closed. Store in a dry, cool and well-ventilated place.

Acid Lugol's Solution

Safety Data Sheet

according to the Hazardous Products Regulation (February 11, 2015)

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Iodine (7553-56-2)

USA - ACGIH - Occupational Exposure Limits

ACGIH OEL TWA [ppm]	0.01 ppm (inhalable fraction and vapor)
ACGIH OEL STEL [ppm]	0.1 ppm (vapor fraction)
ACGIH chemical category	Not Classifiable as a Human Carcinogen

Acetic Acid, Glacial (64-19-7)

USA - ACGIH - Occupational Exposure Limits

ACGIH OEL TWA [ppm]	10 ppm
ACGIH OEL STEL [ppm]	15 ppm

8.2. Appropriate engineering controls

- Appropriate engineering controls : Ensure good ventilation of the work station. Provide readily accessible eye wash stations and safety showers.
- Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Hand protection:

Wear suitable gloves resistant to chemical penetration

Eye protection:

Wear eye/face protection

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Other information:

Handle in accordance with good industrial hygiene and safety procedures. Do not eat, drink or smoke when using this product.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: No data available
Colour	: Red, Brown
Odour	: Acidic Acid
Odour threshold	: No data available
pH	: No data available

Acid Lugol's Solution

Safety Data Sheet

according to the Hazardous Products Regulation (February 11, 2015)

Relative evaporation rate (butylacetate=1)	: No data available
Relative evaporation rate (ether=1)	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: Not flammable
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Solubility	: No data available
Partition coefficient n-octanol/water	: No data available
Viscosity, kinematic	: No data available
Explosive limits	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

Reactivity	: No dangerous reactions known under normal conditions of use.
Chemical stability	: Stable under normal conditions.
Possibility of hazardous reactions	: No dangerous reactions known under normal conditions of use.
Conditions to avoid	: Heat. Incompatible materials.
Incompatible materials	: Strong oxidizers. Heavy metals and their salts.
Hazardous decomposition products	: May include, and are not limited to: oxides of carbon. May release hazardous fumes
Hardening time:	: No additional information available

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	: Not classified.
Acute toxicity (dermal)	: Not classified.
Acute toxicity (inhalation)	: Not classified.

Acid Lugol's Solution

Safety Data Sheet

according to the Hazardous Products Regulation (February 11, 2015)

Potassium iodide (KI) (7681-11-0)	
LD50 dermal rat	> 2000 mg/kg
Iodine (7553-56-2)	
LD50 oral rat	14 g/kg
LD50 dermal rabbit	> 2000 mg/kg
LC50 inhalation rat	> 4.588 mg/l/4h
ATE CA (oral)	14000 mg/kg bodyweight
ATE CA (Dermal)	1100 mg/kg bodyweight
ATE CA (Gases (except aerosol dispensers and lighters))	4500 ppmv/4h
ATE CA (vapours)	11 mg/l/4h
ATE CA (dust,mist)	1.5 mg/l/4h
Acetic Acid, Glacial (64-19-7)	
LD50 oral rat	3310 mg/kg bodyweight
LD50 oral	4960 mg/kg bodyweight
LD50 dermal rabbit	1060 mg/kg
LC50 inhalation rat	11.4 mg/l/4h
ATE CA (oral)	3310 mg/kg bodyweight
ATE CA (Dermal)	1060 mg/kg bodyweight
ATE CA (Gases (except aerosol dispensers and lighters))	4500 ppmv/4h
ATE CA (vapours)	11.4 mg/l/4h
ATE CA (dust,mist)	1.5 mg/l/4h
Skin corrosion/irritation	: Causes skin irritation.
Serious eye damage/irritation	: Causes serious eye irritation.
Respiratory or skin sensitization	: Not classified.
Germ cell mutagenicity	: Not classified.
Carcinogenicity	: Not classified.
Reproductive toxicity	: Not classified.
STOT-single exposure	: Not classified.
STOT-repeated exposure	: Causes damage to organs (Thyroid) through prolonged or repeated exposure.
Potassium iodide (KI) (7681-11-0)	
STOT-repeated exposure	Causes damage to organs (Thyroid) through prolonged or repeated exposure.
Iodine (7553-56-2)	
NOAEL (oral, rat, 90 days)	10 mg/kg bodyweight (OECD Guideline 422)
STOT-repeated exposure	Causes damage to organs through prolonged or repeated exposure.
Acetic Acid, Glacial (64-19-7)	
NOAEL (oral, rat, 90 days)	290 mg/kg bodyweight
Aspiration hazard	: Not classified.
Symptoms/effects after inhalation	: May cause irritation to the respiratory tract.
Symptoms/effects after skin contact	: Causes skin irritation. Symptoms may include redness, drying, defatting and cracking of the skin.

Acid Lugol's Solution

Safety Data Sheet

according to the Hazardous Products Regulation (February 11, 2015)

Symptoms/effects after eye contact	: Causes serious eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva.
Symptoms/effects after ingestion	: May be harmful if swallowed. May cause gastrointestinal irritation, nausea, vomiting and diarrhea.
Chronic symptoms	: Causes damage to organs (Thyroid) through prolonged or repeated exposure.
Other information	: Likely routes of exposure: ingestion, inhalation, skin and eye.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general	: May cause long-term adverse effects in the aquatic environment.
Hazardous to the aquatic environment, short-term (acute)	: Not classified.
Hazardous to the aquatic environment, long-term (chronic)	: Not classified.

Acid Lugol's Solution

Safety Data Sheet

according to the Hazardous Products Regulation (February 11, 2015)

Potassium iodide (KI) (7681-11-0)	
LC50 - Fish [1]	> 100 mg/l (Exposure time: 96 h - Species: Danio rerio [static])
EC50 - Crustacea [1]	7.5 mg/l Test organisms (species): Daphnia magna
Iodine (7553-56-2)	
LC50 - Fish [1]	1.67 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [static])
EC50 72h - Algae [1]	0.13 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
Acetic Acid, Glacial (64-19-7)	
LC50 - Fish [1]	> 1000 mg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri)
LC50 - Fish [2]	> 300.82 mg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri)
EC50 - Crustacea [1]	> 1000 mg/l Test organisms (species): Daphnia magna
EC50 - Crustacea [2]	> 300.82 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	> 1000 mg/l Test organisms (species): Skeletonema costatum
EC50 72h - Algae [2]	> 300.82 mg/l Test organisms (species): Skeletonema costatum
Partition coefficient n-octanol/water	-0.31 (at 20 °C)

12.2. Persistence and degradability

Acid Lugol's Solution	
Persistence and degradability	Not established.

12.3. Bioaccumulative potential

Acid Lugol's Solution	
Bioaccumulative potential	Not established.

Acetic Acid, Glacial (64-19-7)	
Partition coefficient n-octanol/water	-0.31 (at 20 °C)

12.4. Mobility in soil

Acetic Acid, Glacial (64-19-7)	
Partition coefficient n-octanol/water	-0.31 (at 20 °C)

12.5. Other adverse effects

Ozone : Not classified.
Other information : No other effects known.

SECTION 13: Disposal considerations

13.1. Disposal methods

Product/Packaging disposal recommendations : Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.
Additional information : Do not allow product to reach the sewage system

Acid Lugol's Solution

Safety Data Sheet

according to the Hazardous Products Regulation (February 11, 2015)

SECTION 14: Transport information

In accordance with TDG

14.1. UN number

Not regulated for transport

14.2. UN proper shipping name

Proper Shipping Name (TDG) : Not applicable

14.3. Transport hazard class(es)

TDG

Transport hazard class(es) (TDG) : Not applicable

14.4. Packing group

Packing group (TDG) : Not applicable

14.5. Environmental hazards

Other information : No supplementary information available.

14.6. Special precautions for user

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

TDG

No data available

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. National regulations

All components of this product are listed, or excluded from listing, on the Canadian DSL (Domestic Substances List) and NDSL (Non-Domestic Substances List) inventories.

15.2. International regulations

No additional information available

SECTION 16: Other information

Issue date : 06/03/2022

Revision date : 06/03/2022

Other information : None.

Prepared by : Nexreg Compliance Inc.

www.Nexreg.com



Safety Data Sheet (SDS), Canada - Nexreg 2021

Disclaimer: We believe the statements, technical information and recommendations contained herein are reliable, but they are given without warranty or guarantee of any kind. The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for the user's own particular use.