LUGOL'S IODINE SOLUTION SAFETY DATA SHEET

This Safety Datasheet complies with the requirements of Regulation (EC) No 1907/2006

SECTION 1 IDENTIFICATION OF THE SUBSTANCE/ MIXTURE AND THE COMPANY/UNDERTAKING

1.1 **Product Identifier: Lugol's Iodine Solution**
145750, 146750, 148750, 149750

1.2 **Relevant identified uses of the substance or mixture and uses advised against:** laboratory chemical (in vitro diagnostic).

1.3 **Details of the supplier of the Safety Data Sheet:**
Apacor Limited, Unit 5 Sapphire Centre, Fishponds Road, Wokingham, Berkshire, RG41 2QL, England
+44 (0) 118 979 5566
technical@apacor.com

1.4 **Emergency telephone number**:
+44 (0)118 979 5566
(Monday-Friday 0900-1700 excluding UK Public Holidays)

SECTION 2 HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 [CLP]:
Skin Irritation (Category 2)
Eye Irritation (Category 2)

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 [CLP]

Pictogram:

Signal Word: Warning

Hazard statement(s)
H315 Causes skin irritation.
H319 Causes serious eye irritation

Precautionary statements:
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352 IF ON SKIN: Wash with plenty of soap and water.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

2.3 Other hazards

Recommend restriction to professional users only. Dyes and Stains by their physical nature may result in permanent staining if in contact with skin and clothing.

SECTION 3 COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixtures

Hazardous ingredients according to Regulation (EC) No 1272/2008

Component: **Iodine**
CAS No: 7553-56-2
EC No: 231-442-4
Classification: Acute Tox 4 (inhal) (H332), Acute Tox 4 (dermal) (H312), Aquatic Acute1 (H400)
Concentration: <25%

Component: **Potassium Iodide**
CAS No: 7681-11-0
EC No: 231-659-4
Classification: Acute tox 4 (oral) (H302), Eye irrit 2 (H319), Skin irrit 2 (H315)
Concentration: <50%

SECTION 4 FIRST AID MEASURES

4.1 Description of first aid measures

If exposed keep patient calm and seek immediate medical attention. Show this safety data sheet to doctor/physician in attendance.

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, give artificial respiration. Get medical advice/attention.

In case of skin contact: Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation occurs: Get medical advice/attention.

In case of eye contact: 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.

If swallowed: Do NOT induce vomiting. Rinse out mouth with water provided person is conscious. Never give anything by mouth to an unconscious person. Get medical advice/attention.

4.2 Most important symptoms and effects, both acute and delayed

Prolonged exposure to iodides may produce iodism in sensitive individuals. Symptoms of exposure include: skin rash, running nose, headache and irritation of the mucous membranes.

4.3 Indication of any immediate medical attention and special treatment needed

No data available.

SECTION 5 FIRE FIGHTING MEASURES

5.1 Extinguishing media

Use alcohol-resistant foam or fine water spray, dry chemical powder or carbon dioxide

5.2 Special hazards arising from the substance or mixture

Hydrogen Iodide.

5.3 Advice for firefighters

Wear self-contained breathing apparatus /protective clothing. Avoid contact with skin and eyes.

SECTION 6 ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Observe all warning labels on container. Avoid contact with skin and eyes. Avoid breathing dust/fumes/gas/mist/ vapours/spray; ensure adequate ventilation. Wear suitable protective clothing, gloves and eye/face protection. Wash hands thoroughly after handling.

6.2 Environmental precautions

Avoid discharge to the environment. Prevent further leakage or spillage where safe to do so. Do not let product enter drains or water course. Inform responsible authorities as appropriate.

6.3 Methods and material for containment and cleaning up

Absorb spillage with appropriate absorbent material e.g. vermiculite or sand; and dispose into suitably labelled closed containers for disposal according to local regulations. Wash spillage site with water and appropriate detergent.

6.4 Reference to other sections

For disposal refer to section 13.

SECTION 7 HANDLING AND STORAGE

7.1 Precautions for safe handling

Take precaution to avoid exposure. Avoid contact with eyes and skin. Avoid spillage and breathing dust or aerosols. Ensure adequate ventilation of the working area. Wear appropriate personal protective equipment provided. Avoid prolonged or repeated exposure. Wash hands thoroughly after handling. Do not eat or drink when using this product.

7.2 Conditions for safe storage, including any incompatibilities

Store in a cool, dry, well-ventilated place. Replace container lid after use and keep container tightly closed to prevent leakage.

7.3 Specific end use(s)

Recommend restriction to professional users only.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Components with workplace control parameters

	Iodine 7553-56-2
UK	STEL: 0.1 ppm STEL: 1.1 mg/m^3
France	STEL: 0.1 ppm STEL: 1.0 mg/m^3

8.2 Exposure controls

8.2.1 Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice/ Wash hands before breaks and at the end of the workday.

8.2.2 Personal protective equipment

(a) Eye/face protection: Avoid exposure to sprays/mist/aerosols. Use face shield and/or safety goggles for eye protection complying with appropriate government standards such as EN166 (EU).

(b) Skin Protection: Handle with chemical-resistant, impervious gloves complying with appropriate government standards: EU Directive 89/686/EEC; standard EN 374. Inspect gloves prior to use to ensure adequate protection. Use proper glove removal technique to avoid skin contact with substance/mixture. Dispose of contaminated gloves after use in accordance with local and national applicable laws and good laboratory practises. Wash and dry hands thoroughly after handling. Promptly remove any contaminated clothing and clean appropriately before reuse.

(c) Body Protection: Use protective clothing with closed cuffs and closed neck, appropriate to the concentration /amount of the dangerous substance at the specific workplace.

(d) Respiratory protection: For nuisance exposures use respirator and/ or air hood where local exhaust ventilation is inadequate Use products tested and approved to appropriate government standards such as NIOSH (US) or EN 143 / EN 14387 (EU).

8.2.3 Environmental Exposure Controls

None

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

a) Appearance dark brown liquid

b) Odour Pungent

c) Odour threshold no data available

d) pH no data available

e) Melting point / freezing point no data available

f) Initial boiling point and boiling range no data available

g) Flash point no data available

h) Evaporation rate no data available

i) Flammability (solid, gas) no data available

j) Upper/lower flammability or explosive limits no data available

k) Vapour pressure no data available

l) Vapour density no data available

m) Relative density no data available

n) Solubility (ies) no data available

o) Partition coefficient: n-octanol/water no data available

p) Auto-ignition temperature no data available

q) Decomposition temperature no data available

r) Viscosity no data available

s) Explosive properties no data available

t) Oxidising properties no data available

9.2 Other information no data available

SECTION 10 STABILITY AND REACTIVITY

10.1 Reactivity
No data available.

10.2 Chemical stability
Stable under specified conditions of use and storage.

10.3 Possibility of hazardous reactions
No data available.

10.4 Conditions to avoid
No data available.

10.5 Incompatible materials
Strong oxidising agents.

10.6 Hazardous decomposition products
Products of Carbon Oxides and Nitrogen Oxides may be produced on burning or heating. The nature of released decomposition products has not been determined.

SECTION 11 TOXICOLOGICAL INFORMATION

11.1 Information of toxicological effects
Acute toxicity:
Oral, mouse: LD50=1,000mg/kg bw (Potassium Iodide)
Dermal, rabbit: LD50 = 1425 mg/kg bw (Iodine)
Inhalation, rat: LC50 = 4.588 mg/L 4h (Iodine).
Skin corrosion/irritation: no data available
Serious eye damage/eye irritation: no data available
Respiratory or skin sensitisation: no data available
Germ cell mutagenicity: no data available
Carcinogenicity: IARC: no component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
Reproductive toxicity: no data available
Specific target organ toxicity - single exposure: no data available
Specific target organ toxicity - repeated exposure: no data available
Aspiration hazard: no data available

Potential health effects
Inhalation: Maybe harmful if inhaled. Contains components which may cause irritation to mucous membranes and upper respiratory tract.
Ingestion: Maybe harmful if ingested. Contains components which may cause vomiting or other adverse effects such as diarrhoea.
Skin: Causes irritation in contact with skin.
Eyes: Causes serious eye irritation.

Signs and Symptoms of Exposure
Prolonged exposure to iodides may produce iodism in sensitive individuals. Symptoms of exposure include: skin rash, running nose, headache and irritation of the mucous membranes.
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Additional Information
RTECS: Iodine – NN1575000

SECTION 12 ECOLOGICAL INFORMATION

12.1 Toxicity

Toxicity to Fish	
Iodine 7553-56-2	LC50 - Oncorhynchus mykiss (rainbow trout) - 1.7 mg/l - 96h

Toxicity to Daphnia and other Aquatic Invertebrates	
Iodine 7553-56-2	EC50 - Daphnia magna (Water flea) - 0.2 mg/l - 48h EC50 - Algae - 0.13mg/l – 72h

12.2 Persistence and degradability
No data available

12.3 Bioaccumulative potential
Do not let undiluted product or large quantities enter drains or water course. Inform responsible authorities as appropriate.

12.4 Mobility in soil
No data available.

12.5 Results of PBT and vPvB assessment
No data available.

12.6 Other adverse effects
Iodine - Very toxic to aquatic life.

12.7 Additional information
No data available.

SECTION 13 DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods
Product: Dispose of as hazardous waste and offer non-recyclable solutions to a licensed waste material processor. Comply with local regulations.
Contaminated Packaging: Dispose of as unused product.

SECTION 14 TRANSPORT INFORMATION

14.1 UN number n/a

14.2 UN proper shipping name n/a

14.3 Transport hazard class(es) n/a

14.4 Packing group n/a

14.5 Environmental hazards n/a

14.6 Special precautions for user No data available.

14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code
Not intended to be transported in bulk.

SECTION 15 REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/ legislation specific for the substance or mixture
All components are listed as existing substances in Europe.

15.2 Chemical Safety Assessment
A chemical safety assessment has not been carried out for this product.

SECTION 16 OTHER INFORMATION

Full text of H-Statements referred to in Section 3.

H302 Harmful if swallowed.

H312 Harmful in contact with skin.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H332 Harmful if inhaled.

H400 Very toxic to aquatic life.

The information supplied in this SDS is correct to the best of our knowledge. We do not accept any liability for loss, injury or damage, which may result from its use.