Safety Data Sheet

according to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Revision: January 15, 2021

1 Identification

· **Product identifier**

· **Trade name: Iodine Solution, 0.0282N**
· **Product code:** IO2889-Q

· **Recommended use and restriction on use**
· **Recommended use:** Laboratory chemicals
· **Restrictions on use:** No relevant information available.

· **Details of the supplier of the Safety Data Sheet**
· **Manufacturer/Supplier:**
AquaPhoenix Scientific, Inc.
860 Gitts Run Road
Hanover, PA 17331 USA
Tel +1 (717)632-1291
Toll-Free: (866)632-1291
info@aquaphoenixsci.com
· **Distributor:**
AquaPhoenix Scientific
860 Gitts Run Road,
Hanover, PA 17331
(717) 632-1291

· **Emergency telephone number:**
ChemTel Inc.
(800)255-3924 (North America)
+1 (813)248-0585 (International)

2 Hazard(s) identification

· **Classification of the substance or mixture**

STOT RE 1 H372 Causes damage to the thyroid through prolonged or repeated exposure. Route of exposure: Oral.

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

GHS08

· **Signal word:** Danger
· **Hazard statements:**
H372 Causes damage to the thyroid through prolonged or repeated exposure. Route of exposure: Oral.
· **Precautionary statements:**
P260 Do not breathe dust/fume/gas/mist/vapors/spray.
P264 Wash thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P314 Get medical advice/attention if you feel unwell.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

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· **Other hazards** There are no other hazards not otherwise classified that have been identified.

3 Composition/information on ingredients

· **Chemical characterization: Mixtures**

· **Components:**		
7681-11-0	potassium iodide STOT RE 1, H372	4.30%
7553-56-2	iodine Acute Tox. 4, H312; Acute Tox. 4, H332	0.358%
7732-18-5	Water	95.34%

· **Additional information:**
For the listed ingredient(s), the identity and/or exact percentage(s) are being withheld as a trade secret.
For the wording of the listed Hazard Statements, refer to section 16.

4 First-aid measures

· **Description of first aid measures**
· **After inhalation:** Supply fresh air; consult doctor in case of complaints.
· **After skin contact:**
Immediately rinse with water.
If skin irritation is experienced, consult a doctor.
· **After eye contact:**
Remove contact lenses if worn.
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
· **After swallowing:**
Rinse out mouth and then drink plenty of water.
Do not induce vomiting; immediately call for medical help.
· **Most important symptoms and effects, both acute and delayed:**
Gastric or intestinal disorders when ingested.
Nausea in case of ingestion.
Vomiting.
Diarrhea.
· **Danger:** Causes damage to the thyroid through prolonged or repeated exposure. Route of exposure: Oral.
· **Indication of any immediate medical attention and special treatment needed:**
If medical advice is needed, have product container or label at hand.

5 Fire-fighting measures

· **Extinguishing media**
· **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
· **For safety reasons unsuitable extinguishing agents:** No relevant information available.
· **Special hazards arising from the substance or mixture**
During heating or in case of fire poisonous gases are produced.
· **Advice for firefighters**
· **Protective equipment:**

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Wear self-contained respiratory protective device.
Wear fully protective suit.

6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures**
Ensure adequate ventilation.
· **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).
Send for recovery or disposal in suitable receptacles.
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:**
Use only in well ventilated areas.
Avoid splashes or spray in enclosed areas.
· **Information about protection against explosions and fires:**
Keep respiratory protective device available.

· **Conditions for safe storage, including any incompatibilities**
· **Requirements to be met by storerooms and receptacles:**
Store in a cool location.
Provide ventilation for receptacles.
· **Information about storage in one common storage facility:**
Store away from foodstuffs.
Store away from reducing agents.
· **Further information about storage conditions:**
Keep containers tightly sealed.
Store in cool, dry conditions in well sealed receptacles.
· **Specific end use(s)** No relevant information available.

8 Exposure controls/personal protection

· **Control parameters**

· **Components with limit values that require monitoring at the workplace:**	
7681-11-0 potassium iodide	
TLV (USA)	Long-term value: NIC-0.015** mg/m³, (0.01*) ppm NIC-Skin; *inhalable fraction & vapor **inhal.;
7553-56-2 iodine	

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PEL (USA)	Ceiling limit value: 1 mg/m³, 0.1 ppm
REL (USA)	Ceiling limit value: 1 mg/m³, 0.1 ppm
TLV (USA)	Short-term value: (1) mg/m³, (0.1**) ppm Long-term value: (0.1*) mg/m³, (0.01*) NIC-0.015* ppm *as inhalable fraction +vapor;**vapor;NIC-Skin
EL (Canada)	Ceiling limit value: 0.1 ppm
EV (Canada)	Ceiling limit value: 1 mg/m³, 0.1 ppm
LMPE (Mexico)	Ceiling limit value: 0.1** mg/m³, 0.01* ppm A4, *IFV, **vapor y aerosol

· **Exposure controls**

· **General protective and hygienic measures:**
The usual precautionary measures for handling chemicals should be followed.
Keep away from foodstuffs, beverages and feed.
Wash hands before breaks and at the end of work.

· **Engineering controls:** Provide adequate ventilation.

· **Breathing equipment:**
Not required under normal conditions of use.
Use suitable respiratory protective device when high concentrations are present.

· **Protection of hands:**

Protective gloves

· **Material of gloves**
Nitrile rubber, NBR
Neoprene gloves
Fluorocarbon rubber (Viton)
Butyl rubber, BR

· **Eye protection:**

Safety glasses

Follow relevant national guidelines concerning the use of protective eyewear.

· **Body protection:** Protective work clothing

· **Limitation and supervision of exposure into the environment**
No relevant information available.

9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **Appearance:**

Form:	Liquid
Color:	Red-brown
· **Odor:**	Chlorine-like
· **Odor threshold:**	Not determined.

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· **pH-value:**	Not determined.
· **Melting point/Melting range:**	Not determined.
· **Boiling point/Boiling range:**	102 °C (215.6 °F)
· **Flash point:**	The product is not flammable.
· **Flammability (solid, gaseous):**	Not applicable.
· **Auto-ignition temperature:**	Not determined.
· **Decomposition temperature:**	Not determined.
· **Danger of explosion:**	Product does not present an explosion hazard.
· **Explosion limits**	
Lower:	Not determined.
Upper:	Not determined.
· **Oxidizing properties:**	Not determined.
· **Vapor pressure at 20 °C (68 °F):**	23 hPa (17.3 mm Hg)
· **Density at 20 °C (68 °F):**	1.11 g/cm³ (9.26 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.
· **Viscosity**	
Dynamic:	Not determined.
Kinematic:	Not determined.
· **Other information**	No relevant information available.

10 Stability and reactivity

· **Reactivity:** No relevant information available.
· **Chemical stability:** Stable under normal temperatures and pressures.
· **Thermal decomposition / conditions to be avoided:**
No decomposition if used and stored according to specifications.
· **Possibility of hazardous reactions**
Contact with acids releases toxic gases.
Reacts with strong oxidizing agents.
Reacts with strong alkali.
Reacts with reducing agents.
Reacts with various metals.
· **Conditions to avoid** No relevant information available.
· **Incompatible materials** Oxidizers, strong bases, strong acids
· **Hazardous decomposition products**
Under fire conditions only:
Carbon monoxide and carbon dioxide

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Iodine compounds

11 Toxicological information

· **Information on toxicological effects**

· **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:**		
ATE (Acute Toxicity Estimate)		
Oral	LD50	>5000 mg/kg (rat)

7681-11-0 potassium iodide		
Oral	LD50	3118 mg/kg (rat)

· **Primary irritant effect:**

· **On the skin:** Based on available data, the classification criteria are not met.

· **On the eye:** Based on available data, the classification criteria are not met.

· **Sensitization:** Based on available data, the classification criteria are not met.

· **IARC (International Agency for Research on Cancer):**
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.

· **Probable route(s) of exposure:**
Ingestion.
Inhalation.
Eye contact.
Skin contact.

· **Acute effects (acute toxicity, irritation and corrosivity):**
May cause gastro-intestinal irritation if ingested.

· **Repeated dose toxicity:** Danger of very serious irreversible effects.

· **Germ cell mutagenicity:** Based on available data, the classification criteria are not met.

· **Carcinogenicity:** Based on available data, the classification criteria are not met.

· **Reproductive toxicity:** Based on available data, the classification criteria are not met.

· **STOT-single exposure:** Based on available data, the classification criteria are not met.

· **STOT-repeated exposure:**
Causes damage to the thyroid through prolonged or repeated exposure. Route of exposure: Oral.

· **Aspiration hazard:** Based on available data, the classification criteria are not met.

12 Ecological information

· **Toxicity**

· **Aquatic toxicity** No relevant information available.

· **Persistence and degradability** No relevant information available.

· **Bioaccumulative potential:** No relevant information available.

· **Mobility in soil:** No relevant information available.

· **Additional ecological information**

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· **General notes:**
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
· **Other adverse effects** No 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.
The user of this material has the responsibility to dispose of unused material, residues and containers in compliance with all relevant local, state and federal laws and regulations regarding treatment, storage and disposal for hazardous and nonhazardous wastes.

· **Uncleaned packagings**
· **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

· **UN-Number** · **DOT, ADR/RID/ADN, IMDG, IATA**	Not regulated.
· **UN proper shipping name** · **DOT, ADR/RID/ADN, IMDG, IATA**	Not regulated.
· **Transport hazard class(es)** · **DOT, ADR/RID/ADN, IMDG, IATA** · **Class**	Not regulated.
· **Packing group** · **DOT, ADR/RID/ADN, IMDG, IATA**	Not regulated.
· **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.

15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**
· **United States (USA)**
· **SARA**

· **Section 302 (extremely hazardous substances):**
None of the ingredients are listed.

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

None of the ingredients are listed.

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

7681-11-0	potassium iodide
7553-56-2	iodine
7732-18-5	Water

· **Proposition 65 (California)**

· **Chemicals known to cause cancer:**

None of the ingredients are listed.

· **Chemicals known to cause developmental toxicity for females:**

None of the ingredients are listed.

· **Chemicals known to cause developmental toxicity for males:**

None of the ingredients are listed.

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

None of the ingredients are listed.

· **EPA (Environmental Protection Agency):**

None of the ingredients are listed.

· **IARC (International Agency for Research on Cancer):**

None of the ingredients are listed.

· **Canadian Domestic Substances List (DSL):**

None of the ingredients are listed.

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.

· **Abbreviations and acronyms:**

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
CAS: Chemical Abstracts Service (division of the American Chemical Society)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
OSHA: Occupational Safety & Health Administration
Acute Tox. 4: Acute toxicity – Category 4
STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1

· **Sources**

Website, European Chemicals Agency (echa.europa.eu)
Website, US EPA Substance Registry Services (ofmpub.epa.gov/sor internet/registry/substreg/home/overview/home.do)
Website, Chemical Abstracts Registry, American Chemical Society (www.cas.org)
Patty's Industrial Hygiene, 6th ed., Rose, Vernon, ed. ISBN: 978-0-470-07488-6
Casarett and Doull's Toxicology: The Basic Science of Poisons, 8th Ed., Klaasen, Curtis D., ed., ISBN: 978-0-07-176923-5.
Safety Data Sheets, Individual Manufacturers