

# Safety Data Sheet

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

Revision: February 21, 2020

## 1 Identification

- **Product identifier**
- **Trade name:** Orthotolidine Reagent
- **Product code:** OT1510SS
- **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  
Phone: (717)632-1291  
Toll-Free: (866)632-1291  
info@aquaphoenixsci.com
- **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**  
Met. Corr. 1 H290 May be corrosive to metals.  
Skin Irrit. 2 H315 Causes skin irritation.  
Eye Dam. 1 H318 Causes serious eye damage.  
Carc. 1B H350 May cause cancer.
- **Label elements**
- **GHS label elements**  
The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms:**



GHS05 GHS08

- **Signal word:** Danger
- **Hazard statements:**  
H290 May be corrosive to metals.  
H315 Causes skin irritation.  
H318 Causes serious eye damage.  
H350 May cause cancer.
- **Precautionary statements:**  
P201 Obtain special instructions before use.  
P202 Do not handle until all safety precautions have been read and understood.  
P234 Keep only in original container.  
P264 Wash thoroughly after handling.  
P280 Wear protective gloves/protective clothing/eye protection.

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P302+P352 If on skin: Wash with plenty of 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.  
 P310 Immediately call a poison center/doctor.  
 P308+P313 IF exposed or concerned: Get medical advice/attention.  
 P332+P313 If skin irritation occurs: Get medical advice/attention.  
 P362+P364 Take off contaminated clothing and wash it before reuse.  
 P390 Absorb spillage to prevent material damage.  
 P405 Store locked up.  
 P406 Store in corrosive resistant container with a resistant inner liner.  
 P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

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

## 3 Composition/information on ingredients

• **Chemical characterization: Mixtures**

• **Components:**

7647-01-0	hydrochloric acid	14.125%
	 Met. Corr. 1, H290; Skin Corr. 1B, H314; Eye Dam. 1, H318  Acute Tox. 4, H302; STOT SE 3, H335	
612-82-8	salts of 4,4'-bi-o-toluidine	0.126%
	 Carc. 1B, H350  Acute Tox. 4, H302	
7732-18-5	Water	84.749%

• **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:** If skin irritation continues, consult a doctor.

• **After eye contact:**

Protect unharmed eye.

Remove contact lenses if worn.

Rinse opened eye for several minutes under running water. Then 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:**

Irritant to skin and mucous membranes.

Strong irritant with the danger of severe eye injury.

Causes skin irritation.

Gastric or intestinal disorders when ingested.

• **Danger:**

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Causes serious eye damage.

May cause cancer.

· **Indication of any immediate medical attention and special treatment needed:**

Medical supervision for at least 48 hours.

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:**

Wear self-contained respiratory protective device.

Wear fully protective suit.

## 6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation.

For large spills, use respiratory protective device against the effects of fumes/dust/aerosol.

· **Environmental precautions**

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

· **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.

· **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:**

Prevent formation of aerosols.

Avoid splashes or spray in enclosed areas.

Use only in well ventilated 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:**

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- Store only in the original receptacle.
- Unsuitable material for receptacle: steel.
- Unsuitable material for receptacle: aluminium.
- **Information about storage in one common storage facility:**
  - Store away from foodstuffs.
  - Store away from metals.
  - Do not store together with alkalis (caustic solutions).
- **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:**

The following constituent is the only constituent of the product which has a PEL, TLV or other recommended exposure limit.

### 7647-01-0 hydrochloric acid

PEL (USA)	Ceiling limit value: 7 mg/m <sup>3</sup> , 5 ppm
REL (USA)	Ceiling limit value: 7 mg/m <sup>3</sup> , 5 ppm
TLV (USA)	Ceiling limit value: 2.98 mg/m <sup>3</sup> , 2 ppm
EL (Canada)	Ceiling limit value: 2 ppm
EV (Canada)	Ceiling limit value: 2 ppm
LMPE (Mexico)	Ceiling limit value: 2 ppm
	A4

- **Exposure controls**
- **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.
  - Wash hands before breaks and at the end of work.
  - Store protective clothing separately.
  - Avoid contact with the eyes and skin.
- **Engineering controls:** Provide adequate ventilation.
- **Breathing equipment:** Use suitable respiratory protective device when high concentrations are present.
- **Protection of hands:**



Protective gloves

- **Material of gloves**
  - Nitrile rubber, NBR
  - Neoprene gloves
- **Eye protection:**
  - Contact lenses should not be worn.

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Safety glasses

Follow relevant national guidelines concerning the use of protective eyewear.

- **Body protection:** Acid resistant protective 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: According to product specification

· Odor: Acrid  
· Odor threshold: Not determined.

· pH-value at 20 °C (68 °F): <2  
· Melting point/Melting range: Not determined.  
· Boiling point/Boiling range: 100 °C (212 °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: Non-oxidizing.

· Vapor pressure: Not determined.

· Density at 20 °C (68 °F): 0.98-1.04 g/cm<sup>3</sup> (8.18-8.68 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.

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## 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**  
Reacts with alkali (lyes).  
Corrosive action on metals.  
Toxic fumes may be released if heated above the decomposition point.
- **Conditions to avoid** No relevant information available.
- **Incompatible materials**  
Metals.  
Alkalis.
- **Hazardous decomposition products**  
Under fire conditions only:  
Chlorine compounds

## 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:** Based on available data, the classification criteria are not met.

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

#### ATE (Acute Toxicity Estimate)

Oral	LD50	>15929 mg/kg (rabbit)
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- **Primary irritant effect:**
- **On the skin:** Irritant to skin and mucous membranes.
- **On the eye:** Strong irritant with the danger of severe eye injury.
- **Sensitization:** Based on available data, the classification criteria are not met.

### • IARC (International Agency for Research on Cancer):

7647-01-0	hydrochloric acid	3
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### • NTP (National Toxicology Program):

612-82-8	salts of 4,4'-bi-o-toluidine	R
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### • 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):

Irritating to skin.  
Causes serious eye damage.

### • Repeated dose toxicity: Danger of very serious irreversible effects.

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

### • Carcinogenicity: May cause cancer.

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- **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:** Based on available data, the classification criteria are not met.
- **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**
- **General notes:**  
Do not allow product to reach ground water, water course or sewage system, even in small quantities.  
Must not reach bodies of water or drainage ditch undiluted or unneutralized.
- **Other adverse effects** No relevant information available.

## 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**  
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. Residual materials should be treated as hazardous.
- **Uncleaned packagings**
- **Recommendation:** Disposal must be made according to official regulations.

## 14 Transport information

- |   |                            |
|---|----------------------------|
| · <b>UN-Number</b>  |                            |
| · <b>DOT, ADR/RID/ADN, IMDG, IATA</b>   | UN1789                     |
| · <b>UN proper shipping name</b>  |                            |
| · <b>DOT, ADR/RID/ADN, IMDG, IATA</b>   | HYDROCHLORIC ACID SOLUTION |
| · <b>Transport hazard class(es)</b>   |                            |
| · <b>DOT</b>  |                            |
|  |                            |
| · <b>Class</b>  | 8                          |
| · <b>Label</b>  | 8                          |

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· ADR/RID/ADN



· Class 8 (C1)  
· Label 8

· IMDG, IATA



· Class 8  
· Label 8

· Packing group

· DOT, ADR/RID/ADN, IMDG, IATA III

· Environmental hazards Not applicable.

· Special precautions for user Warning: Corrosive substances

· 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.

· Section 313 (Specific toxic chemical listings):

7647-01-0 | hydrochloric acid

· TSCA (Toxic Substances Control Act)

All ingredients are listed or exempt.

· Proposition 65 (California)

· Chemicals known to cause cancer:

612-82-8 | salts of 4,4'-bi-o-toluidine

· 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:

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None of the ingredients are listed.

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

None of the ingredients are listed.

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

7647-01-0 hydrochloric acid

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• **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

Met. Corr. 1: Corrosive to metals – Category 1

Acute Tox. 4: Acute toxicity – Category 4

Skin Corr. 1B: Skin corrosion/irritation – Category 1B

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

Eye Dam. 1: Serious eye damage/eye irritation – Category 1

Carc. 1B: Carcinogenicity – Category 1B

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

• **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., Klaassen, Curtis D., ed., ISBN: 978-0-07-176923-5.

Safety Data Sheets, Individual Manufacturers

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