



GLEN RESEARCH

SAFETY DATA SHEET Product 40-4035-XX

1. Product and Company Identification

Product Codes: 40-4035-XX
Product Name: Oxidizing Solution
Product Use: For Research Use Only
Manufacturer Information
Company Name: Glen Research Corporation
22825 Davis Drive, #100
Sterling, VA 20164 USA
Phone Number: +1-703-437-6191
Web Site Address: www.glenresearch.com
Email Address: msds@glenres.com
Information in case of emergency: Chemtrec, 800-424-9300; Outside USA +1-703-527-3887

2. Hazards Identification



Pictograms:

Signal Words: Danger

GHS Hazard Statements

H225: Highly Flammable Liquid and Vapor.
H302+312+332: Harmful if swallowed, in contact with skin, or if inhaled.
H318: Causes serious eye damage.

GHS Precautionary Statements

P103: Read label before use.
P210: Keep away from heat/sparks/open flames/hot surfaces – No Smoking.
P233: Keep container tightly closed.
P260: Avoid breathing fumes or vapors.
P270: Do not eat, drink or smoke when using this product.
P271: Use only in a well ventilated area.
P280: Wear protective gloves / protective clothing / eye protection / face protection.

GHS Response Statements

P301+330: IF SWALLOWED: Rinse mouth with water.
P302+350: IF ON SKIN: Gently wash with soap and water.
P304+340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so - continue rinsing.
P306+360: IF ON CLOTHING: Rinse contaminated clothing and skin immediately with plenty of water before removing clothes.
P310: Immediately Call a POISON CENTER or doctor/physician.
P362: Take off contaminated clothing and wash before use.

GHS Storage and Disposal Phrases

P403+233: Store in a well-ventilated place. Keep container tightly closed.
P501: Dispose of contents / container in a safe way in accordance with all federal, state and local regulations.

Emergency Overview

Flammable Liquid, Target organ effect, Harmful by ingestion, Harmful by skin absorption, Irritant.

Target Organs

Respiratory System, Cardiovascular System, Thyroid, Blood, Kidney, Liver, Central Nervous System.

SAFETY DATA SHEET
Product 40-4035-XX

3. Composition/Information on Ingredients

Product Name	CAS #	EC-No	Concentration	M.W.	Formula
Pyridine	110-86-1	203-809-9	90%	79.10 g/mol	C ₅ H ₅ N
Iodine	7553-56-2	231-442-4	14g/L	253.8 g/mol	I ₂
Water	7732-18-5	231-791-2	10%	18.02 g/mol	H ₂ O

4. First Aid Measures

Emergency and First Aid Procedures

If inhaled:

Remove to fresh air.
If not breathing, give artificial respiration. Get medical attention.

In case of skin contact:

Immediately wash skin with soap and plenty of water. Remove contaminated clothing. Wash clothing before reuse. Get medical attention.

If swallowed:

Rinse mouth with water. Do not induce vomiting. Get medical attention.

If in contact with eyes:

Rinse cautiously with water for several minutes. Remove contact lenses if present and safe to do so. Continue rinsing. Get medical attention.

Signs and Symptoms of Exposure

Burning sensation, Cough, Wheezing, Laryngitis, Shortness of Breath, Nausea, Vomiting, Headache, Hypersalivation, Chest pain or tightness, Profuse sweating, Abdominal pain and hematemesis, Weakness, Stupor, Respiratory depression, Metabolic acidosis, Convulsions, Tachycardia, Shock, Eye irritation.

Treatment

Treat symptomatically and supportively.

5. Fire Fighting Measures

Suitable Extinguishing Media

Use a Class A Extinguisher (Dry chemical, carbon dioxide, water or foam).

Special protective equipment for fire fighters

Wear self-contained breathing apparatus (SCBA) for fire fighting if necessary.
Wear protective clothing to prevent contact with skin and eyes.

Flammable Properties and Hazards

Highly flammable liquid and vapor. Vapor may travel distances to sources of ignition.

6. Accidental Release Measures

Personal Precautions

Avoid breathing vapors. Evacuate personnel to safe areas.

Protective equipment

Use personal protective equipment. Avoid contact with skin, eyes, and clothing.

Emergency procedures

Remove all sources of ignition. Vapors may travel distances to sources of ignition. Ensure adequate ventilation.

Methods and Material for containment and cleaning up.

Absorb spillage with sand, absorbent pads. Do not let product enter the drain. Wear impermeable gloves, safety glasses and a lab coat when cleaning up the spill. Dispose of absorbent and spillage in compliance with local and state regulations.

SAFETY DATA SHEET
Product 40-4035-XX

7. Handling and Storage

Precautions To Be Taken in Handling

Handle using safe laboratory practices. Avoid all direct contact. Use explosion proof equipment. Keep away from sources of ignition – No Smoking. Take measures to prevent the build up of electrostatic charges.

Recommended Storage

Controlled room temperature.

Precautions To Be Taken in Storing

Keep container tightly closed. Store in well-ventilated place.

Other Precautions

Protect from sunlight.

8. Exposure Controls/Personal Protection

Product Name	CAS #	OSHA PEL (TWA)	ACGIH TLV	OSHA (STEL)
Pyridine	110-86-1	5ppm	5ppm	N/A
Iodine	7553-56-2	0.1ppm	N/A	N/A
Water	7732-18-5	N/A	N/A	N/A

Engineering Controls (Ventilation etc.)

Local exhaust ventilation is usually sufficient.

Respiratory Equipment (Specify Type)

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Eye Protection

Safety glasses with side shields. Wear splash resistant goggles or face shield if splashes are likely to occur.

Protective Gloves

Impermeable, chemically resistant gloves.

Other Protective Clothing

Lab coat, chemical resistant lab coat, protective chemical suit, based on risk assessment of activities.

Work/Hygienic/Maintenance Practices

Wash hands after handling. Do not eat, drink, or smoke when using this product.

9. Physical and Chemical Properties

Physical State:	<input type="checkbox"/> Gas <input checked="" type="checkbox"/> Liquid <input type="checkbox"/> Solid
Appearance:	Liquid, clear, light yellow
Odor:	Sharp, pungent odor
Odor Threshold:	1ppm (Pyridine)
pH:	No data
Melting Point:	No data
Initial Boiling Point and Boiling Range:	No data
Flash Point:	17.0°C (pyridine)
Specific Gravity:	0.98 g/mL
Evaporation Rate:	No data
Flammability:	Highly flammable
Explosive Limits:	LEL: No data UEL: No data
Vapor Pressure (vs. Air or mm Hg):	No data
Vapor Density (vs. Air = 1):	No data
Solubility in Water:	Fully soluble
Partition Coefficient (n-octanol/water):	No data
Auto-ignition Temperature:	No data
Decomposition Temperature:	No data

SAFETY DATA SHEET
Product 40-4035-XX

Viscosity: No data
Percent Volatile: No data

10. Stability and Reactivity

Reactivity

Stable material, hazardous polymerization will not occur.

Chemical Stability: Unstable [] Stable [X]

Possibility of Hazardous Reactions:

Vapors may form explosive mixture with air.

Conditions To Avoid - Instability

Heat, flames, and sparks. Extremes of temperature and direct sunlight.

Incompatibility - Materials To Avoid

Strong oxidizing reagents, alkali metals.

Hazardous Decomposition or Byproducts

Oxides of nitrogen, carbon, and hydrogen cyanide may evolve when heated to decomposition.

11. Toxicological Information

Route(s) of Entry:

Inhalation? Yes Skin? Yes Eyes? Yes Ingestion? Yes

Acute Toxicity

No data

Skin corrosion/irritation

Mild

Serious eye damage/ eye irritation

Serious eye damage

Respiratory or skin sensitization

No data available

Germ Cell mutagenicity

No data available

Carcinogenicity

Product Name

CAS #

NTP

IARC

OSHA

Pyridine

110-86-1

Not listed

Group 3

Not listed

Reproductive toxicity

No data available

Specific target organ toxicity – single exposure (GHS)

No data available

Specific target organ toxicity – repeated exposure (GHS)

No data available

Aspiration hazard

No

Medical Conditions Generally Aggravated By Exposure

No data available.

This product should be handled with the usual care when dealing with chemicals. To the best of our knowledge, the toxicological properties of this substance have not been investigated.

12. Ecological Information

Ecotoxicity

Pimephales promelas (fathead minnow) 96-hour LC50 93.8mg/L (Pyridine)

Persistence and degradability

No data available

Bioaccumulative potential

No data available.

SAFETY DATA SHEET
Product 40-4035-XX

Mobility in soil

No data available

Other adverse effects

No data available

13. Disposal Considerations

Waste Disposal Method

Observe all federal, state and local regulations. For Contaminated Packaging - Dispose of in compliance with regulations. Contact a licensed professional waste disposal service for proper disposal. Burn in a chemical incinerator equipped with afterburner and scrubber.

14. Transport Information

LAND TRANSPORT (49CFR)

UN Number – UN1993, Class 3, Packing Group II
Proper Shipping Name: Flammable Liquid N.O.S. (Pyridine Solution)
Reportable Quantity (RQ) 1000lbs (Pyridine)
Marine Pollutant: No
Poison Inhalation Hazard (PIH): No

AIR TRANSPORT (ICAO/IATA)

UN Number – UN1993, Class 3, Packing Group II
Proper Shipping Name: Flammable Liquid N.O.S. (Pyridine Solution)

MARINE TRANSPORT (IMDG/IMO)

UN Number – UN1993, Class 3, Packing Group II, EMS-No: F-E, S-E
Proper Shipping Name: Flammable Liquid N.O.S. (Pyridine Solution)
Marine Pollutant: No

15. Regulatory Information

SARA 302 Components

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

SARA 313: Pyridine, CAS 110-86-1

SARA 311/312

Fire Hazard, Acute Health Hazard, Chronic Health Hazard

Massachusetts Right to Know Components

Pyridine 110-86-1

Pennsylvania Right to Know Components

Pyridine 110-86-1

New Jersey Right to Know Components

Pyridine 110-86-1

California Prop. 65 Components

This product contains a chemical known to the State of California to cause cancer.

Pyridine 110-86-1

16. Other Information

For all other inquiries about this product contact Glen Research at 1-800-327-GLEN or 1-703-437-6191.

The information provided herein is based on sources believed to be reliable as of December 1, 2014 and pertains only to the material designated. Glen Research Corporation makes no warranty or representation to its completeness, accuracy or currency. This material is intended for use by persons with the pertinent technical skills, and at their discretion and risk. It is the responsibility of the user to determine the product's suitability for its intended use, the product's safe use and the product's proper disposal. Disposal of hazardous material may be subject to federal, state or local regulations.