

SAFETY DATA SHEET

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers

Product name : HOLMIUM OXIDE WAVELENGTH CALIBRATION STANDARD

Product Number : PQA-HOX-01 & PQA-HOX-A

Brand : MicroSolv Technology

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory chemicals, qualification substances

1.3 Details of the supplier of the safety data sheet

Company : MicroSolv Technology
9158 Industrial Blvd
Leland NC 28451
UNITED STATES

Telephone : +1 732 380-8900

Fax : +1 910 769-9435

1.4 Emergency telephone number

Emergency Phone # : +1-732-380-8900

SECTION 2: Hazards identification

2.1 May be irritating to skin and eyes. LD/TD no data. OSHA PEL/ACGIH TLV not established. No evidence of carcinogenicity. Toxic effects may include blood-clotting abnormalities. The perchlorate ion has been shown to interfere with iodine uptake by the thyroid in test animals. Studies on workers in plants where perchlorate salts are manufactured have shown no thyroid abnormalities. Thyroid effects on humans continues to be studied.

SECTION 3: Composition/information on ingredients

3.1 Substances

FORMULA	REPORTABLE QUANTITY	F.W.	CAS#
Ho(ClO ₄) ₃	<5% N/A	463.29	14017-54-0
HClO ₄	<5% N/A	100.46	7601-90-3
H ₂ O	>90% N/A	18.02	7732-18-5

No components need to be disclosed according to the applicable regulations.

SECTION 4: First aid measures

4.1 Description of first aid measures

If inhaled

If not breathing give artificial respiration

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

May cause fire if allowed to dry out after contact with wood, paper, cloth, or other organic or combustible materials. Firefighters wear SCBA. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

5.2 Special hazards arising from the substance or mixture

Stable. Becomes oxidizing on concentration and heating to above 150°C. Incompatible with organic matter and combustibles.

5.3 Advice for firefighters

No data available

5.4 Further information

The product itself does not burn.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For personal protection see section 8.

6.2 Environmental precautions

No data available

6.3 Methods and materials for containment and cleaning up

Wash up with water. Disposal of neutralized solution to sanitary drain with plenty of water. Paper, cloth or wood which has come in contact with this product should be rinsed thoroughly with water and then incinerated.

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Precautions for safe handling

Keep away from sources of ignition - No smoking. Keep away from heat and sources of ignition.

Conditions for safe storage

Keep container tightly closed in a dry and well-ventilated place.

Containers which are opened must be carefully resealed and kept upright to prevent leakage.

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

8.2 Exposure controls

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice.

Personal protective equipment

Skin protection

Use rubber gloves and goggles. This product is supplied SOLELY for use in RESEARCH AND DEVELOPMENT by or under the supervision of a TECHNICALLY QUALIFIED INDIVIDUAL, Who should be FULLY COGNIZANT of the procedures for working with chemical products of this type as described at 40 CFR 720.36.

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Respiratory protection

No special protective equipment required.

Control of environmental exposure

Prevent product from entering drains.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

- | | |
|---------------|------------------------------------|
| a) Appearance | Form: liquid
Colour: colourless |
| b) Odour | No data available |

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	Not applicable
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	Density 1.57;
n) Water solubility	Completely miscible with water.
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

9.2 Other safety information

No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

No data available

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

No data available

10.4 Conditions to avoid

No data available

10.5 Incompatible materials

Stable. Becomes oxidizing on concentration and heating to above 150°C. Incompatible with organic matter and combustibles.

10.6 Hazardous decomposition products

In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

No data available

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.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

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

Additional Information

RTECS: ZC0110000

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

SECTION 12: Ecological information

12.1 Toxicity

No data available

12.2 Persistence and degradability

No data available

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Other adverse effects

No ecological problems are to be expected when the product is handled and used with due care and attention.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Taking into account local regulations the product may be disposed of as waste water after neutralisation.

SECTION 14: Transport information

DOT (US)

UN number: 3211 Class: 5.1 Packing group: II Proper shipping name: Perchlorates, inorganic, aqueous solution, n.o.s. Reportable Quantity (RQ): Marine Pollutant: No Poison Inhalation Hazard: No IMDGUN number: 3211

Class: 5.1 Packing group: II

EMS-No: F-H, S-Q Proper shipping name: PERCHLORATES, INORGANIC, AQUEOUS SOLUTION, N.O.S. Marine

Pollutant: No

SECTION 15: Regulatory information

OSHA Hazards Oxidizer

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: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards Reactivity Hazard

Massachusetts Right To Know Components

No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know Components

CAS-No.Revision Date

Water 7732-18-5 Holmium(3+) perchlorate
14017-54-0

New Jersey Right To Know Components

CAS-No.Revision Date

Water 7732-18-5 Holmium(3+) perchlorate
14017-54-0

California Prop. 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

SECTION 16: Other information

Further information

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. MicroSolv™ Technology and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product.

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