

## 1 - Product and Company Information

ProductName **HOLMIUM(III) PERCHLORATE, 40 WT. % SOLUTION IN WATER, 99.9% METALS BASIS**

## 2 - Hazards Identification

**SPECIAL INDICATION OF HAZARDS TO HUMANS AND THE ENVIRONMENT**  
Contact with combustible material may cause fire. Causes burns.

## 3 - Composition/Information on Ingredients

Product Name	CAS #	EC no	Annex I
HOLMIUM(III) PERCHLORATE, 99.9%, 40 WT. %SOLUTION IN WATER	None	None	None

Formula Ho(ClO<sub>4</sub>)<sub>3</sub>  
Molecular Weight 463.28 AMU

## 4 - First Aid Measures

### AFTER INHALATION

If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

### AFTER EYE CONTACT

Assure adequate flushing of the eyes by separating the eyelids with fingers.

### AFTER INGESTION

If swallowed, wash out mouth with water provided person is conscious. Call a physician immediately.

## 5 - Fire Fighting Measures

### CONDITIONS OF FLAMMABILITY

May accelerate combustion.

### EXTINGUISHING MEDIA

Suitable: Water spray. Carbon dioxide, dry chemical powder, or appropriate foam.

### SPECIAL RISKS

Specific Hazard(s): Emits toxic fumes under fire conditions. May accelerate combustion. Contact with other material may cause fire.

### SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

## 6 - Accidental Release Measures

### PERSONAL PRECAUTION PROCEDURES TO BE FOLLOWED IN CASE OF LEAK OR SPILL

Evacuate area.

### PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

### METHODS FOR CLEANING UP

Cover with dry lime or soda ash, pick up, keep in a closed container, and hold for waste disposal. Ventilate area and wash spill site after material pickup is complete.

## 7 - Handling and Storage

### HANDLING

Directions for Safe Handling: Do not breathe vapor. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure.

### STORAGE

Conditions of Storage: Keep tightly closed. Store in a cool dry place.  
Unsuitable: Do not store near, nor allow contact with, clothing and other combustible material.

## 8 - Exposure Controls / Personal Protection

### ENGINEERING CONTROLS

Use only in a chemical fume hood. Safety shower and eye bath.

### GENERAL HYGIENE MEASURES

Wash thoroughly after handling.

### PERSONAL PROTECTIVE EQUIPMENT

Special Protective Measures: Wear appropriate government approved respirator, chemical-resistant gloves, safety goggles, other protective clothing. Faceshield (8-inch minimum).

## 9 - Physical and Chemical Properties

pH	N/A
BP/BP Range	N/A
MP/MP Range	N/A
Flash Point	N/A
Flammability	N/A
Autoignition Temp	N/A
Oxidizing Properties	N/A
Explosive Properties	N/A
Explosion Limits	N/A
Vapor Pressure	6.204 mmHg
SG/Density	1.57 g/cm <sup>3</sup>
Partition Coefficient	N/A
Viscosity	N/A
Vapor Density	N/A
Saturated Vapor Conc.	N/A
Evaporation Rate	N/A
Bulk Density	N/A
Decomposition Temp.	N/A
Solvent Content	N/A
Water Content	N/A
Surface Tension	N/A
Conductivity	N/A
Miscellaneous Data	N/A
Solubility	N/A

## 10 - Stability and Reactivity

### STABILITY

Stable: Stable.  
Materials to Avoid: Strong oxidizing agents, Organic materials, Finely powdered metals.

### HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide, Hydrogen chloride gas.

### HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

## 11 - Toxicological Information

### SIGNS AND SYMPTOMS OF EXPOSURE

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting. Inhalation may result in spasm, inflammation and edema of the larynx and bronchi, chemical pneumonitis, and pulmonary edema. Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin. Rare earth compounds may cause delayed blood clotting leading to hemorrhages. Inhalation of rare earths may cause sensitivity to heat, itching, and increased awareness of odor and taste.

### ROUTE OF EXPOSURE

Multiple Routes: Harmful if swallowed, inhaled, or absorbed through skin.

## 12 - Ecological Information

No data available.

## 13 - Disposal Considerations

### SUBSTANCE DISPOSAL

Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations.

## 14 - Transport Information

### RID/ADR

UN#: 3098

Class: 5.1

PG: II

Subrisk: 8

Proper Shipping Name: Oxidizing liquid, corrosive,

n.o.s.

### IMDG

UN#: 3098

Class: 5.1

PG: II

Subrisk: 8

Proper Shipping Name: Oxidizing liquid, corrosive,

n.o.s.

Inhalation Packing Group I: No

Technical Name: Required

## 15 - Regulatory Information

### CLASSIFICATION AND LABELLING ACCORDING TO EU DIRECTIVES

#### INDICATION OF DANGER: O.C.

Oxidizing, Corrosive.

R-Phrases: 8-34

H-Phrases: 17-26/36/37/39-45

Keep away from combustible material. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing, gloves, and eye/face protection. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

Caution: Substance not yet fully tested (EU).

## 16 - Other Information

For R&D use only. Not for drug, household or other uses.

### WARRANTY

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 respect to the conditions of use set forth in the accompanying product information. It does not represent any guarantee of the properties of the product. LookChem shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.



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