

# SAFETY DATA SHEET

Date Printed: 05/16/2024

Date Revised: 01/15/2022

## SECTION 1. IDENTIFICATION

**Product Identifier:** (5N) 99.999% Mercury(II) Iodide Red

**Product Code:** HG2-IREN-05-P

**CAS Number:** 7774-29-0

**Relevant identified uses of the substance:** Scientific research and development

Supplier details:

American Elements  
10884 Weyburn Ave.  
Los Angeles, CA 90024  
Tel: +1 310-208-0551  
Fax: +1 310-208-0351  
Emergency telephone number:  
+1 800-424-9300

## SECTION 2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

Skull and crossbones

Acute Tox. 2 H300 Fatal if swallowed.

Acute Tox. 2 H310 Fatal in contact with skin.

Acute Tox. 2 H330 Fatal if inhaled.

Health hazard

STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.

GHS label elements

The substance is classified and labeled according to the Globally Harmonized System (GHS).

Hazard pictograms



Signal word Danger

Hazard-determining components of labeling:

mercury diiodide

Hazard statements

H300+H310+H330 Fatal if swallowed, in contact with skin or if inhaled.

H373 May cause damage to organs through prolonged or repeated exposure.

Precautionary statements

P101 If medical advice is needed, have product container or label at hand.  
P102 Keep out of reach of children.  
P103 Read label before use.  
P260 Do not breathe dust/fume/gas/mist/vapors/spray.  
P262 Do not get in eyes, on skin, or on clothing.  
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.  
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P403+P233 Store in a well-ventilated place. Keep container tightly closed.  
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.  
Classification system:  
NFPA ratings (scale 0 - 4)  
4  
0  
0  
Health = 4  
Fire = 0  
Reactivity = 0  
HMIS-ratings (scale 0 - 4)  
HEALTH  
FIRE  
REACTIVITY  
3  
0  
0  
Health = 3  
Fire = 0  
Reactivity = 0  
Other hazards  
Results of PBT and vPvB assessment  
PBT: N/A  
vPvB: N/A

---

### **SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

Substances  
CAS # / Substance Name  
7774-29-0 Mercury diiodide  
Identification number(s)  
EC number: 231-873-8  
Index number: 080-002-00-6

---

### **SECTION 4. FIRST AID MEASURES**

Description of first aid measures  
General information:  
Immediately remove any clothing soiled by the product.  
Remove breathing apparatus only after contaminated clothing have been completely removed.  
In case of irregular breathing or respiratory arrest provide artificial respiration.

If inhaled:

Supply fresh air or oxygen; call for doctor.

In case of unconsciousness place patient stably in side position for transportation.

In case of skin contact: Immediately wash with soap and water; rinse thoroughly.

In case of eye contact: Rinse opened eye for several minutes under running water. Consult a physician.

If swallowed: Do not induce vomiting; immediately call for medical help.

Most important symptoms and effects, both acute and delayed:

No data available

Indication of any immediate medical attention and special treatment needed

No data available

---

## **SECTION 5. FIREFIGHTING MEASURES**

Extinguishing media

Suitable extinguishing agents:

CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

Special hazards arising from the substance or mixture No data available

Advice for firefighters

Protective equipment: Mouth respiratory protective device.

---

## **SECTION 6. ACCIDENTAL RELEASE MEASURES**

Personal precautions, protective equipment and emergency procedures Not required.

Environmental precautions: Inform respective authorities in case of seepage into water courses, or sewage systems.

Methods and materials for containment and cleanup:

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

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.

---

## **SECTION 7. HANDLING AND STORAGE**

Precautions for safe handling

Thorough dedusting.

Ensure good ventilation/exhaustion at the workplace.

Open and handle receptacle with care.

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: No special requirements.

Information about storage in one common storage facility: Not required.

Further information about storage conditions: Keep receptacle tightly sealed.

Specific end use(s) No data available

---

## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Additional information about design of technical systems: No further data; see item 7.

Control parameters

Components with limit values that require monitoring at the workplace:

7774-29-0 mercury diiodide

PEL Long-term value:  $0.1 \text{ mg/m}^3$

as Hg; see OSHA standard interpretation memo

REL Long-term value:  $0.05^* \text{ mg/m}^3$

Ceiling limit value:  $0.1 \text{ mg/m}^3$

as Hg; \*Vapor; Skin

TLV Long-term value:  $0.025 \text{ mg/m}^3$

as Hg; Skin; BEI

Ingredients with biological limit values:

7774-29-0 mercury diiodide

BEI  $35 \mu\text{g/L}$

Medium: urine

Time: prior to shift

Parameter: Total inorganic mercury (background)

$15 \mu\text{g/L}$

Medium: blood

Time: end of shift at end of workweek

Parameter: Total inorganic mercury (background)

Additional information: The lists that were valid during the creation were used as basis.

Exposure controls

Personal protective equipment:

General protective and hygienic measures:

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.

Breathing equipment:

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use

respiratory protective device that is independent of circulating air.

Protection of hands:

Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and

varies from manufacturer to manufacturer.

Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eye protection: Safety glasses

---

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance:

Form: Powder

Color: Orange

Odor: Odorless

Odor threshold: No data available.

pH: N/A

Melting point/Melting range: 259 °C (498 °F)

Boiling point/Boiling range: 354 °C (669 °F)

Flash point: N/A

Flammability (solid, gas): Product is not flammable.

Ignition temperature:

Decomposition temperature: No data available.

Autoignition: No data available.

Danger of explosion: Product does not present an explosion hazard.

Explosion limits:

Lower: No data available.

Upper: No data available.

Vapor pressure: no data hPa

Density at 20 °C (68 °F): 6.271 g/cm<sup>3</sup> (52.331 lbs/gal)

Bulk density at 20 °C (68 °F): 1350 kg/m<sup>3</sup>

Relative density No data available.

Vapor density N/A

Evaporation rate N/A

Solubility in / Miscibility with

Water: Insoluble.

Partition coefficient (n-octanol/water): No data available.

Viscosity:

Dynamic: N/A

Kinematic: N/A

Organic solvents: 0.0 %

Solids content: 100.0 %

Other information No data available

---

## SECTION 10. STABILITY AND REACTIVITY

Reactivity

Chemical stability

Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.

Possibility of hazardous reactions No dangerous reactions known.

Conditions to avoid No data available

Incompatible materials: No data available

Hazardous decomposition products: No dangerous decomposition products known.

---

## SECTION 11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

Acute toxicity:

LD/LC50 values that are relevant for classification:

Oral LD50 18 mg/kg (rat)

7774-29-0 mercury diiodide

Oral LD50 18 mg/kg (rat)

Dermal LD50 75 mg/kg (rat)

Primary irritant effect:

on the skin: No irritant effect.

on the eye: No irritating effect.

Sensitization: No sensitizing effects known.

Additional toxicological information: Danger through skin absorption.

Carcinogenic categories

IARC (International Agency for Research on Cancer)

7774-29-0 mercury diiodide 3

NTP (National Toxicology Program)

Substance is not listed.

OSHA-Ca (Occupational Safety & Health Administration)

Substance is not listed.

---

## SECTION 12. ECOLOGICAL INFORMATION

Toxicity

Aquatic toxicity: No data available

Persistence and degradability No data available

Bioaccumulative potential No data available

Mobility in soil No data available

Ecotoxicological effects:

Remark: Very toxic for fish

Additional ecological information:

Also poisonous for fish and plankton in water bodies.

Very toxic for aquatic organisms

Results of PBT and vPvB assessment

PBT: N/A

vPvB: N/A

Other adverse effects No data available

---

## SECTION 13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Recommendation:

Must not be disposed of together with household garbage. Do not allow product to enter drains, sewage systems, or other water courses system.

Uncleaned packagings:

Recommendation: Disposal must be made according to official regulations.

---

## SECTION 14. TRANSPORT INFORMATION

UN-Number  
DOT, IMDG, IATA UN1638  
UN proper shipping name  
DOT Mercury iodide  
IMDG, IATA MERCURY IODIDE  
Transport hazard class(es)  
DOT  
Class 6.1 Toxic substances  
Label 6.1  
IMDG, IATA  
Class 6.1 Toxic substances  
Label 6.1  
Packing group  
DOT, IMDG, IATA II  
Environmental hazards:  
Marine pollutant: No  
Special precautions for user N/A  
Danger code (Kemler): 60  
Segregation groups Heavy metals and their salts (including their organometallic compounds), mercury and mercury compounds  
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code N/A  
Transport/Additional information:  
DOT  
Quantity limitations On passenger aircraft/rail: 25 kg  
On cargo aircraft only: 100 kg  
IMDG  
Limited quantities (LQ) .5kg  
Excepted quantities (EQ) Code: E4  
Maximum net quantity per inner packaging: 1 g  
Maximum net quantity per outer packaging: 500 g  
UN "Model Regulation": UN1638, Mercury iodide, 6.1, II

---

## SECTION 15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture  
Sara  
Section 355 (extremely hazardous substances):  
Substance is not listed.  
Section 313 (Specific toxic chemical listings):  
Substance is listed.  
TSCA (Toxic Substances Control Act):  
Substance is listed.  
Proposition 65  
Chemicals known to cause cancer:  
Substance is not listed.  
Chemicals known to cause reproductive toxicity for females:  
Substance is not listed.  
Chemicals known to cause reproductive toxicity for males:  
Substance is not listed.  
Chemicals known to cause developmental toxicity:

Substance is listed.  
Carcinogenic categories  
EPA (Environmental Protection Agency)  
7774-29-0 mercury diiodide D  
TLV (Threshold Limit Value established by ACGIH)  
7774-29-0 mercury diiodide A4  
NIOSH-Ca (National Institute for Occupational Safety and Health)  
Substance is not listed.  
GHS label elements  
The substance is classified and labeled according to the Globally Harmonized System (GHS).  
Hazard pictograms  
Signal word Danger  
Hazard-determining components of labeling:  
mercury diiodide  
Hazard statements  
H300+H310+H330 Fatal if swallowed, in contact with skin or if inhaled.  
H373 May cause damage to organs through prolonged or repeated exposure.  
Precautionary statements  
P101 If medical advice is needed, have product container or label at hand.  
P102 Keep out of reach of children.  
P103 Read label before use.  
P260 Do not breathe dust/fume/gas/mist/vapors/spray.  
P262 Do not get in eyes, on skin, or on clothing.  
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.  
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P403+P233 Store in a well-ventilated place. Keep container tightly closed.  
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.  
Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

---

## 16. OTHER INFORMATION

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH). 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. American Elements 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. COPYRIGHT 1997-2022 AMERICAN ELEMENTS. LICENSED GRANTED TO MAKE UNLIMITED PAPER COPIES FOR INTERNAL USE ONLY.